

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Chevron Phillips Chemical Company, LP

AUTHORIZING THE OPERATION OF
Cedar Bayou Chemical Complex
Polyethylene Unit 1796
Petrochemical Manufacturing

LOCATED AT
Harris County, Texas
Latitude 29° 48' 47" Longitude 94° 56' 19"
Regulated Entity Number: RN103919817

This permit is issued in accordance with and subject to the Texas Clean Air Act (TCAA), Chapter 382 of the Texas Health and Safety Code and Title 30 Texas Administrative Code Chapter 122 (30 TAC Chapter 122), Federal Operating Permits. Under 30 TAC Chapter 122, this permit constitutes the permit holder's authority to operate the site and emission units listed in this permit. Operations of the site and emission units listed in this permit are subject to all additional rules or amended rules and orders of the Commission pursuant to the TCAA.

This permit does not relieve the permit holder from the responsibility of obtaining New Source Review authorization for new, modified, or existing facilities in accordance with 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification.

The site and emission units authorized by this permit shall be operated in accordance with 30 TAC Chapter 122, the general terms and conditions, special terms and conditions, and attachments contained herein.

This permit shall expire five years from the date of issuance. The renewal requirements specified in 30 TAC § 122.241 must be satisfied in order to renew the authorization to operate the site and emission units.

Permit No: Q3247 Issuance Date: September 29, 2021

For the Commission

Table of Contents

| Section | Page |
|---|------|
| General Terms and Conditions | 1 |
| Special Terms and Conditions: | 1 |
| Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting..... | 1 |
| Additional Monitoring Requirements | 8 |
| New Source Review Authorization Requirements | 9 |
| Compliance Requirements..... | 10 |
| Risk Management Plan | 11 |
| Protection of Stratospheric Ozone | 12 |
| Alternative Requirements..... | 12 |
| Permit Location | 12 |
| Permit Shield (30 TAC § 122.148) | 12 |
| Attachments | 13 |
| Applicable Requirements Summary..... | 14 |
| Additional Monitoring Requirements | 85 |
| Permit Shield | 96 |
| New Source Review Authorization References | 100 |
| Alternative Requirement..... | 106 |
| Appendix A..... | 113 |
| Acronym List | 114 |
| Appendix B..... | 115 |

General Terms and Conditions

The permit holder shall comply with all terms and conditions contained in 30 TAC § 122.143 (General Terms and Conditions), 30 TAC § 122.144 (Recordkeeping Terms and Conditions), 30 TAC § 122.145 (Reporting Terms and Conditions), and 30 TAC § 122.146 (Compliance Certification Terms and Conditions).

In accordance with 30 TAC § 122.144(1), records of required monitoring data and support information required by this permit, or any applicable requirement codified in this permit, are required to be maintained for a period of five years from the date of the monitoring report, sample, or application unless a longer data retention period is specified in an applicable requirement. The five year record retention period supersedes any less stringent retention requirement that may be specified in a condition of a permit identified in the New Source Review Authorization attachment.

If the permit holder chooses to demonstrate that this permit is no longer required, a written request to void this permit shall be submitted to the Texas Commission on Environmental Quality (TCEQ) by the Responsible Official in accordance with 30 TAC § 122.161(e). The permit holder shall comply with the permit's requirements, including compliance certification and deviation reporting, until notified by the TCEQ that this permit is voided.

The permit holder shall comply with 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit.

All reports required by this permit must include in the submittal a cover letter which identifies the following information: company name, TCEQ regulated entity number, air account number (if assigned), site name, area name (if applicable), and Air Permits Division permit number(s).

Special Terms and Conditions:

Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.
 - D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
 - E. Emission units subject to 40 CFR Part 63, Subparts A, FFFF and ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter

113, Subchapter C, § 113.100, § 113.890, and § 113.1090 respectively, which incorporate the 40 CFR Part 63 Subpart by reference.

- F. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
- (i) Title 30 TAC § 101.302 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)
 - (iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)
 - (iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)
 - (v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit
- G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:
- (i) Title 30 TAC § 101.352 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)
 - (iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)
 - (iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)
 - (v) Title 30 TAC § 101.359 (relating to Reporting)
 - (vi) Title 30 TAC § 101.360 (relating to Level of Activity Certification)
 - (vii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit
- H. For the purpose of generating discrete emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 4 (Discrete Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:
- (i) Title 30 TAC § 101.372 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.373 (relating to Discrete Emission Reduction Credit Generation and Certification)
 - (iii) Title 30 TAC § 101.374 (relating to Mobile Discrete Emission Reduction Credit Generation and Certification)
 - (iv) Title 30 TAC § 101.378 (relating to Discrete Emission Credit Banking and Trading)
 - (v) The terms and conditions by which the emission limits are established to generate the discrete reduction credit are applicable requirements of this permit

- I. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 6 (Highly Reactive Volatile Organic Compound Emissions Cap and Trade Program) requirements:
 - (i) Title 30 TAC § 101.393 (relating to General Provisions)
 - (ii) Title 30 TAC § 101.394 (relating to Allocation of Allowances)
 - (iii) Title 30 TAC § 101.396 (relating to Allowance Deductions)
 - (iv) Title 30 TAC § 101.399 (relating to Allowance Banking and Trading)
 - (v) Title 30 TAC § 101.400 (relating to Reporting)
 - (vi) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
 - A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)
 - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
 - A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972, that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
 - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

- (ii) Title 30 TAC § 111.111(a)(1)(E)
- (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
- (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:
 - (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
 - (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
 - (3) Records of all observations shall be maintained.
 - (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
 - (5) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.
- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)
- (iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
 - (1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.
 - (2) Records of all observations shall be maintained.
 - (3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed

facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(7) and (a)(7)(A).
- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- C. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.
- D. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: Storage of Volatile Organic Compounds, the permit holder shall comply with the requirements of 30 TAC § 115.112(e)(1).
5. The permit holder shall comply with the requirements of 30 TAC § 115.726(e)(3)(A) for vent streams having no potential to emit HRVOC.
6. The permit holder shall comply with the requirements of 30 TAC § 115.726(e)(3)(A) for vent streams from sources exempt under 30 TAC § 115.727(c)(3).
7. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:
 - A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)
 - B. Title 40 CFR § 60.8 (relating to Performance Tests)
 - C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)
 - D. Title 40 CFR § 60.12 (relating to Circumvention)
 - E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)
 - F. Title 40 CFR § 60.14 (relating to Modification)
 - G. Title 40 CFR § 60.15 (relating to Reconstruction)
 - H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)
8. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 61, unless otherwise stated in the applicable subpart:
 - A. Title 40 CFR § 61.05 (relating to Prohibited Activities)
 - B. Title 40 CFR § 61.07 (relating to Application for Approval of Construction or Modification)
 - C. Title 40 CFR § 61.09 (relating to Notification of Start-up)
 - D. Title 40 CFR § 61.10 (relating to Source Reporting and Request Waiver)
 - E. Title 40 CFR § 61.12 (relating to Compliance with Standards and Maintenance Requirements)
 - F. Title 40 CFR § 61.13 (relating to Emissions Tests and Waiver of Emission Tests)
 - G. Title 40 CFR § 61.14 (relating to Monitoring Requirements)
 - H. Title 40 CFR § 61.15 (relating to Modification)
 - I. Title 40 CFR § 61.19 (relating to Circumvention)
9. For facilities where total annual benzene quantity from waste is greater than or equal to 10 megagrams per year and subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:

- A. Title 40 CFR § 61.342(c)(1)(i) - (iii) (relating to Standards: General)
 - B. Title 40 CFR § 61.342(c)(2) (relating to Standards: General)
 - C. For exempting waste streams:
 - (i) Title 40 CFR § 61.342(c)(3)(ii)(A) - (C) (relating to Standards: General)
 - D. Title 40 CFR § 61.342(f)(1), and (2) (relating to Standards: General)
 - E. Title 40 CFR § 61.342(g) (relating to Standards: General)
 - F. Title 40 CFR § 61.350(a) and (b) (relating to Standards: Delay of Repair)
 - G. Title 40 CFR § 61.355(a)(1)(iii), (a)(2), (a)(6), (b), and (c)(1) - (3) (relating to Test Methods, Procedures, and Compliance Provisions)
 - H. Title 40 CFR § 61.355(j) (relating to Test Methods, Procedures, and Compliance Provisions), for calculation procedures
 - I. Title 40 CFR § 61.356(a) (relating to Recordkeeping Requirements)
 - J. Title 40 CFR § 61.356(b), and (b)(1) (relating to Recordkeeping Requirements)
 - K. Title 40 CFR § 61.356(b)(2)(i) - (ii) (relating to Recordkeeping Requirements)
 - L. Title 40 CFR § 61.356(b)(5) (relating to Recordkeeping Requirements)
 - M. Title 40 CFR § 61.356(c) (relating to Recordkeeping Requirements)
 - N. Title 40 CFR § 61.357(a), (d)(1), (d)(2) (d)(6) and (d)(8) (relating to Reporting Requirements)
 - O. Title 40 CFR § 61.357(d)(3) (relating to Reporting Requirements)
10. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.
 11. For miscellaneous chemical process facilities subject to maintenance wastewater requirements as specified in 40 CFR § 63.2485, Table 7, the permit holder shall comply with the requirements of 40 CFR § 63.105 (relating to Maintenance Wastewater Requirements) (Title 30 TAC Chapter 113, Subchapter C, § 113.890 incorporated by reference).
 12. For miscellaneous chemical process facilities with Group 2 wastewater streams subject to wastewater operations requirements in 40 CFR Part 63, Subpart FFFF, the permit holder shall comply with the requirements of 40 CFR § 63.132(a), (a)(1), (a)(1)(i), and (a)(3) as specified in § 63.2485(a) (Title 30 TAC Chapter 113, Subchapter C, § 113.890 incorporated by reference).

Additional Monitoring Requirements

13. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached "CAM Summary" upon issuance of the permit. In addition, the permit holder shall comply with the following:

- A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).
 - B. The permit holder shall report, consistent with the averaging time identified in the "CAM Summary," deviations as defined by the deviation limit in the "CAM Summary." Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).
 - C. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "CAM Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).
 - D. The permit holder shall operate the monitoring, identified in the attached "CAM Summary," in accordance with the provisions of 40 CFR § 64.7.
 - E. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.
14. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

15. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule (including the terms, conditions, monitoring, recordkeeping, and reporting identified in registered PBRs and permits by rule identified in the PBR Supplemental Tables dated September 15, 2020 in the application for project 31223), standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
- A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield

16. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
17. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR, or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

18. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring, recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.
19. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:
 - A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:
 - (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:
 - (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)
 - B. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.
20. Use of Emission Credits to comply with applicable requirements:
 - A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) Offsets for Title 30 TAC Chapter 116
 - B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)-(d)

- (ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1
- (iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)-(d)
- (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122
- (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)

21. Use of Discrete Emission Credits to comply with the applicable requirements:

- A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
 - (i) Title 30 TAC Chapter 115
 - (ii) Title 30 TAC Chapter 117
 - (iii) If applicable, offsets for Title 30 TAC Chapter 116
 - (iv) Temporarily exceed state NSR permit allowables
- B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:
 - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)
 - (ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4
 - (iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)
 - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122
 - (v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Risk Management Plan

22. For processes subject to 40 CFR Part 68 and specified in 40 CFR § 68.10, the permit holder shall comply with the requirements of the Accidental Release Prevention Provisions in 40 CFR Part 68. The permit holder shall submit to the appropriate agency either a compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR § 68.10(a), or as part of the compliance certification submitted under this permit, a certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of a risk management plan.

Protection of Stratospheric Ozone

23. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
- A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.
 - B. The permit holder shall comply with 40 CFR Part 82, Subpart F related to the disposal requirements for appliances using Class I or Class II (ozone-depleting) substances or non-exempt substitutes as specified in 40 CFR §§ 82.150 - 82.166 and the applicable Part 82 Appendices.

Alternative Requirements

24. The permit holder shall comply with the approved alternative means of control (AMOC); alternative monitoring, recordkeeping, or reporting requirements; or requirements determined to be equivalent to an otherwise applicable requirement contained in the Alternative Requirements attachment of this permit. Units complying with an approved alternative requirement have reference to the approval in the Applicable Requirements summary listing for the unit. The permit holder shall maintain the original documentation, from the EPA Administrator and TCEQ Executive Director, demonstrating the method or limitation utilized. Documentation shall be maintained and made available in accordance with 30 TAC § 122.144.

Permit Location

25. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Permit Shield (30 TAC § 122.148)

26. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

Permit Shield

New Source Review Authorization References

Alternative Requirement

Applicable Requirements Summary

| | |
|---------------------------|-----------|
| Unit Summary | 15 |
|---------------------------|-----------|

| | |
|--|-----------|
| Applicable Requirements Summary | 33 |
|--|-----------|

Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|---|--|
| 1796-09J | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5722-01 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director has not waived testing for identical vents. |
| 1796-09J | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5722-02 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director waived testing for identical vents. |
| 1796-09J | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is less than 612 ppmv. |
| 1796-09J | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-02 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is greater than or equal to 612 ppmv. |
| 1796-12A | FUGITIVE EMISSION UNITS | N/A | R5780-ALL | 30 TAC Chapter 115, HRVOC Fugitive Emissions | No changing attributes. |
| 1796-12A | FUGITIVE EMISSION UNITS | N/A | R5352-ALL | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | No changing attributes. |
| 1796-12A | FUGITIVE EMISSION UNITS | N/A | 60DDD-ALL | 40 CFR Part 60, Subpart DDD | No changing attributes. |
| 1796-12A | FUGITIVE EMISSION UNITS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | No changing attributes. |
| E-531 | INDUSTRIAL PROCESS COOLING TOWERS | N/A | R5760-01 | 30 TAC Chapter 115, HRVOC Cooling Towers | Flow Monitoring/Testing Method = Choosing to monitor cooling water flow rate at a location representative of the total flow rate to the cooling tower in accordance with § 115.764(g)(2). |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--------------------------------------|--------------------------|---------------|---|---|
| E-531 | INDUSTRIAL PROCESS COOLING TOWERS | N/A | R5760-02 | 30 TAC Chapter 115, HRVOC Cooling Towers | Flow Monitoring/Testing Method = Choosing to use the maximum potential flow rate based on the manufacturer's pump performance data in accordance with §115.764(e)(1). |
| EMG-591A | SRIC ENGINES | N/A | R7300-1 | 30 TAC Chapter 117, Subchapter B | No changing attributes. |
| EMG-591A | SRIC ENGINES | N/A | 60III-1 | 40 CFR Part 60, Subpart III | No changing attributes. |
| EMG-591A | SRIC ENGINES | N/A | 63ZZZZ-1 | 40 CFR Part 63, Subpart ZZZZ | No changing attributes. |
| FS-541 | FLARES | N/A | R1111-01 | 30 TAC Chapter 111, Visible Emissions | No changing attributes. |
| FS-541 | FLARES | N/A | R5722-01 | 30 TAC Chapter 115, HRVOC Vent Gas | No changing attributes. |
| FS-541 | FLARES | N/A | 60A-01 | 40 CFR Part 60, Subpart A | Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec) |
| FS-541 | FLARES | N/A | 60A-02 | 40 CFR Part 60, Subpart A | Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is greater than 1000 Btu/scf (37.3 MJ/scm) |
| FS-541 | FLARES | N/A | 60A-03 | 40 CFR Part 60, Subpart A | Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm). |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|--|---|
| FS-541 | FLARES | N/A | 63A-01 | 40 CFR Part 63, Subpart A | Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec) |
| FS-541 | FLARES | N/A | 63A-02 | 40 CFR Part 63, Subpart A | Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is greater than 1000 Btu/scf (37.3 MJ/scm). |
| FS-541 | FLARES | N/A | 63A-03 | 40 CFR Part 63, Subpart A | Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm). |
| FS-541 | FLARES | N/A | 60A-01-FFFF | 40 CFR Part 63, Subpart FFFF | Flare Tip Velocity = Flare tip velocity is less than 60 ft/s. |
| FS-541 | FLARES | N/A | 60A-02-FFFF | 40 CFR Part 63, Subpart FFFF | Flare tip velocity is greater than or equal to 60 ft/s but less than 400 ft/s. |
| FS-541 | FLARES | N/A | 63A-01-FFFF | 40 CFR Part 63, Subpart FFFF | Flare Tip Velocity = Flare tip velocity is less than 60 ft/s. |
| FS-541 | FLARES | N/A | 63A-02-FFFF | 40 CFR Part 63, Subpart FFFF | Flare tip velocity is greater than or equal to 60 ft/s but less than 400 ft/s. |
| FS541VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5722-01 | 30 TAC Chapter 115, HRVOC Vent Gas | No changing attributes. |
| FS541VENTS | EMISSION POINTS/STATIONARY | N/A | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | No changing attributes. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--|----------------|---|---|
| | VENTS/PROCESS VENTS | | | | |
| FS541VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | No changing attributes. |
| FS541VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-01-FFFF | 40 CFR Part 63, Subpart FFFF | No changing attributes. |
| G-544 | VOLATILE ORGANIC COMPOUND WATER SEPARATORS | N/A | R5131-01 | 30 TAC Chapter 115, Water Separation | No changing attributes. |
| GRPFINISH | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08P, 1796-09A, 1796-09B, 1796-09C, 1796-09D, 1796-09E, 1796-09F, 1796-09G, 1796-09H, BL-831-1, BL-831-2, VE-804-1, VE-804-2, VE-806-1, VE-806-2, VE-807-1, VE-807-2, VE-841-1, VE-841-2, VE-842-1, VE-842-2, VE-843-1, VE-843-2, VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0, VE-880-0, VE-881-0, VE-882-0, VE-883-0 | R5722-01 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director has not waived testing for identical vents. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--|---------------|---------------------------------------|---|
| GRPFINISH | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08P, 1796-09A, 1796-09B, 1796-09C, 1796-09D, 1796-09E, 1796-09F, 1796-09G, 1796-09H, BL-831-1, BL-831-2, VE-804-1, VE-804-2, VE-806-1, VE-806-2, VE-807-1, VE-807-2, VE-841-1, VE-841-2, VE-842-1, VE-842-2, VE-843-1, VE-843-2, VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0, VE-880-0, VE-881-0, VE-882-0, VE-883-0 | R5722-02 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director waived testing for identical vents. |
| GRPFINISH | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08P, 1796-09A, 1796-09B, 1796-09C, 1796-09D, 1796-09E, 1796-09F, 1796-09G, 1796-09H, BL-831-1, BL-831-2, VE-804-1, VE-804-2, VE-806-1, VE-806-2, VE-807-1, VE-807-2, VE-841-1, VE-841-2, VE-842-1, VE-842-2, VE-843-1, VE-843-2, | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is less than 612 ppmv. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|---|---------------|--|--|
| | | VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0, VE-880-0, VE-881-0, VE-882-0, VE-883-0 | | | |
| GRPFINISH | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08P, 1796- 09A, 1796-09B, 1796-09C, 1796- 09D, 1796-09E, 1796-09F, 1796- 09G, 1796-09H, BL- 831-1, BL-831-2, VE-804-1, VE-804-2, VE-806-1, VE-806-2, VE-807-1, VE-807-2, VE-841-1, VE-841-2, VE-842-1, VE-842-2, VE-843-1, VE-843-2, VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0, VE-880-0, VE-881-0, VE-882-0, VE-883-0 | R5121-02 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is greater than or equal to 612 ppmv. |
| GRPHCL | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08A, 1796- 08B, 1796-08C, 1796-08D, 1796- | R5722-01 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director has not waived testing for identical vents. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--|---------------|---------------------------------------|--|
| | | 08M, BL-442-1, BL-442-2 | | | |
| GRPHCL | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08A, 1796-08B, 1796-08C, 1796-08D, 1796-08M, BL-442-1, BL-442-2 | R5722-02 | 30 TAC Chapter 115, HRVOC Vent Gas | Waived Testing = The executive director waived testing for identical vents. |
| GRPHCL | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08A, 1796-08B, 1796-08C, 1796-08D, 1796-08M, BL-442-1, BL-442-2 | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is greater than 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is less than 612 ppmv. |
| GRPHCL | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | 1796-08A, 1796-08B, 1796-08C, 1796-08D, 1796-08M, BL-442-1, BL-442-2 | R5121-02 | 30 TAC Chapter 115, Vent Gas Controls | Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg)., VOC Concentration = VOC concentration is greater than or equal to 612 ppmv. |
| H-550XVENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | Control Device Type = Vapor combustor not considered to be a flare. |
| H-550XVENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-03 | 30 TAC Chapter 115, Vent Gas Controls | Control Device Type = Smokeless flare |
| H-550XVENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a non-flare CD is being used to meet 98% reduction per § 63.2455(a) - Table 1.1.a.i., Hal Device Type = No halogen scrubber or other halogen |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|-----------|--------------------------|---------------|-------------------------|--|
| | | | | | <p>reduction device is used., Alt 63SS Mon Parameters = Alternate monitoring parameters or requirements have not been approved by the Administrator or have not been requested., Formaldehyde = The stream does not contain formaldehyde., Bypass Line = Bypass lines are monitored by flow indicators., Prior Eval = The data from a prior evaluation or assessment is not used., CEMS = A CEMS is not used., Designated Grp1 = The emission stream is designated as Group 1., Small Device = A small control device (defined in § 63.2550) is not being used., Designated Hal = The emission stream is not designated as halogenated., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., SS Device Type = Incinerator other than a catalytic incinerator., Meets 63.988(b)(2) = The control device does not meet the criteria in § 63.985(b)(2)., Determined Hal = The emission stream is determined to be non-halogenated., Assessment Waiver = The Administrator has not granted a waiver of compliance assessment or no waiver is requested.</p> |
| H-550XVENTS | EMISSION | N/A | 63FFFF-02 | 40 CFR Part 63, Subpart | Emission Standard = The TRE index |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|------------|---|
| | POINTS/STATIONARY VENTS/PROCESS VENTS | | | FFFF | is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a non-flare CD is being used to meet a ppmv standard per § 63.2455(a) - Table 1.1.a.i., Hal Device Type = No halogen scrubber or other halogen reduction device is used., Alt 63SS Mon Parameters = Alternate monitoring parameters or requirements have not been approved by the Administrator or have not been requested., Formaldehyde = The stream does not contain formaldehyde., Bypass Line = Bypass lines are monitored by flow indicators., Prior Eval = The data from a prior evaluation or assessment is not used., CEMS = A CEMS is not used., Designated Grp1 = The emission stream is designated as Group 1., Small Device = A small control device (defined in § 63.2550) is not being used., Designated Hal = The emission stream is not designated as halogenated., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., SS Device Type = Incinerator other than a catalytic incinerator., Meets 63.988(b)(2) = The control device does not meet the criteria in § 63.985(b)(2)., Determined Hal = |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|----------------|---------------------------------|---|
| | | | | | The emission stream is determined to be non-halogenated., Assessment Waiver = The Administrator has not granted a waiver of compliance assessment or no waiver is requested. |
| H-550XVENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-03 | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a flare is being used for control., Determined Hal = The emission stream is determined to be non-halogenated., Designated Grp1 = The emission stream is designated as Group 1., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., Designated Hal = The emission stream is not designated as halogenated., Prior Eval = The data from a prior evaluation or assessment is used., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration. |
| H-550XVENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-03-FFFF | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a flare is being used for control., Determined Hal = The emission stream is determined to be non- |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|--|--|
| | | | | | halogenated., Designated Grp1 = The emission stream is designated as Group 1., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., Designated Hal = The emission stream is not designated as halogenated., Prior Eval = The data from a prior evaluation or assessment is used., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration. |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-01 | 30 TAC Chapter 115, Vent Gas Controls | Alternate Control Requirement = Alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria and demonstrating substantially equivalent reduction efficiencies approved by the TCEQ Executive Director., Control Device Type = Chiller or catalytic incinerator. |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | R5121-03 | 30 TAC Chapter 115, Vent Gas Controls | Alternate Control Requirement = Alternate control is not used., Control Device Type = Smokeless flare |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a non-flare CD is being used to meet |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|-----------|--------------------------|---------------|------------|--|
| | | | | | <p>98% reduction per § 63.2455(a) - Table 1.1.a.i., Hal Device Type = No halogen scrubber or other halogen reduction device is used., Alt 63SS Mon Parameters = Alternate monitoring parameters or requirements have been approved by the Administrator., Formaldehyde = The stream does not contain formaldehyde., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration., Prior Eval = The data from a prior evaluation or assessment is not used., Designated Grp1 = The emission stream is designated as Group 1., Small Device = A small control device (defined in § 63.2550) is not being used., Designated Hal = The emission stream is not designated as halogenated., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., SS Device Type = Catalytic incinerator., Meets 63.988(b)(2) = The control device does not meet the criteria in § 63.985(b)(2)., Determined Hal = The emission stream is determined to be non-halogenated., Assessment Waiver = The Administrator has not granted a waiver of compliance assessment or</p> |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|---------------|---------------------------------|---|
| | | | | | no waiver is requested. |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-02 | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a non-flare CD is being used to meet a ppmv standard per § 63.2455(a) - Table 1.1.a.i., Hal Device Type = No halogen scrubber or other halogen reduction device is used., Alt 63SS Mon Parameters = Alternate monitoring parameters or requirements have been approved by the Administrator., Formaldehyde = The stream does not contain formaldehyde., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration., Prior Eval = The data from a prior evaluation or assessment is not used., Designated Grp1 = The emission stream is designated as Group 1., Small Device = A small control device (defined in § 63.2550) is not being used., Designated Hal = The emission stream is not designated as halogenated., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., SS Device Type = Catalytic incinerator., Meets 63.988(b)(2) = The control device does not meet the criteria in |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--|--------------------------|----------------|---------------------------------|---|
| | | | | | § 63.985(b)(2)., Determined Hal = The emission stream is determined to be non-halogenated., Assessment Waiver = The Administrator has not granted a waiver of compliance assessment or no waiver is requested. |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-03 | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a flare is being used for control., Determined Hal = The emission stream is determined to be non-halogenated., Designated Grp1 = The emission stream is designated as Group 1., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., Designated Hal = The emission stream is not designated as halogenated., Prior Eval = The data from a prior evaluation or assessment is used., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration. |
| H549VENTS | EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS | N/A | 63FFFF-03-FFFF | 40 CFR Part 63, Subpart FFFF | Emission Standard = The TRE index is not maintained above the threshold (5.0 for a new source and 1.9 for an existing source) and a flare is being used for control., Determined Hal = The emission |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|---------------------------------|--------------------------|---------------|--|---|
| | | | | | stream is determined to be non-halogenated., Designated Grp1 = The emission stream is designated as Group 1., Negative Pressure = The closed vent system is operated and maintained at or above atmospheric pressure., Designated Hal = The emission stream is not designated as halogenated., Prior Eval = The data from a prior evaluation or assessment is used., Bypass Line = Bypass line valves are secured in the closed position with a car-seal or lock-and-key configuration. |
| LOAD | LOADING/UNLOADING OPERATIONS | N/A | R5211-01 | 30 TAC Chapter 115, Loading and Unloading of VOC | True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = Vapor control system with a flare., Control Options = Vapor control system that maintains a control efficiency of at least 90%., Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected. |
| LOAD | LOADING/UNLOADING OPERATIONS | N/A | R5211-02 | 30 TAC Chapter 115, Loading and Unloading of VOC | True Vapor Pressure = True vapor pressure less than 0.5 psia. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|---------------------------------------|--------------------------|---------------|---------------------------------|---|
| PROPE1796 | POLYMER MANUFACTURING PROCESSES | N/A | 60DDD-05 | 40 CFR Part 60, Subpart DDD | Process Emissions = Individual vent gas streams emit continuous emissions., Uncontrolled Annual Emissions = Uncontrolled annual emissions are less than 1.6 Mg/yr (1.76 tpy)., Weight Percent TOC = Weight percent of total organic compounds is 0.10% or greater. |
| PROPE1796 | POLYMER MANUFACTURING PROCESSES | N/A | 60DDD-06 | 40 CFR Part 60, Subpart DDD | Process Emissions = Individual vent gas streams emit continuous emissions., Uncontrolled Annual Emissions = Uncontrolled annual emissions are less than 1.6 Mg/yr (1.76 tpy)., Weight Percent TOC = Weight percent of total organic compounds is less than 0.10%. |
| PROPE1796 | POLYMER MANUFACTURING PROCESSES | N/A | 60DDD-07 | 40 CFR Part 60, Subpart DDD | Process Emissions = Individual vent gas streams emit intermittent emissions., Emergency Vent = Emissions are an emergency vent stream from a new, modified, or reconstructed facility. |
| PROPE1796 | POLYMER MANUFACTURING PROCESSES | N/A | 60DDD-08 | 40 CFR Part 60, Subpart DDD | Process Emissions = Individual vent gas streams emit continuous emissions., Uncontrolled Annual Emissions = Uncontrolled annual emissions are 1.6 Mg/yr (1.76 tpy) or greater., Weight Percent TOC = Weight percent of total organic compounds is less than 0.10%. |
| PROPE1796 | CHEMICAL MANUFACTURING PROCESS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | No changing attributes. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|---------------------------------|--------------------------|---------------|--|--|
| TK-561 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| TK-561 | STORAGE TANKS/VESSELS | N/A | 63FFFF-1 | 40 CFR Part 63, Subpart FFFF | No changing attributes. |
| TK-760 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| TK-760 | STORAGE TANKS/VESSELS | N/A | 63FFFF-01 | 40 CFR Part 63, Subpart FFFF | No changing attributes. |
| UNLOAD | LOADING/UNLOADING OPERATIONS | N/A | R5211-01 | 30 TAC Chapter 115, Loading and Unloading of VOC | True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = Vapor control system with a flare., Control Options = Vapor control system that maintains a control efficiency of at least 90%., Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected. |
| UNLOAD | LOADING/UNLOADING OPERATIONS | N/A | R5211-02 | 30 TAC Chapter 115, Loading and Unloading of VOC | True Vapor Pressure = True vapor pressure less than 0.5 psia. |
| VE-025-0 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| VE-026-0 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |

Unit Summary

| Unit/Group/ Process ID No. | Unit Type | Group/Inclusive Units | SOP Index No. | Regulation | Requirement Driver |
|-------------------------------|--------------------------|--------------------------|---------------|--|-------------------------|
| VE-041-0 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| VE-042-0 | STORAGE TANKS/VESSELS | N/A | R5111 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| VE-043-0 | STORAGE TANKS/VESSELS | N/A | R5111 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| VE-763 | STORAGE TANKS/VESSELS | N/A | R5112-01 | 30 TAC Chapter 115, Storage of VOCs | No changing attributes. |
| VE-763 | STORAGE TANKS/VESSELS | N/A | 60Kb-01 | 40 CFR Part 60, Subpart Kb | No changing attributes. |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|---------------------------------------|---|---|--|--|--|
| 1796-09J | EP | R5722-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) [G]§ 115.725(a)(4) [G]§ 115.725(l) [G]§ 115.726(a)(2) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(l) § 115.725(n) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | [G]§ 115.725(a)(4) § 115.725(a)(5) § 115.725(n) [G]§ 115.726(a)(2) |
| 1796-09J | EP | R5722-02 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) [G]§ 115.725(a)(4) § 115.725(a)(7) § 115.725(a)(7)(C) [G]§ 115.725(l) [G]§ 115.726(a)(2) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(a)(7)(C) [G]§ 115.725(l) § 115.725(n) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(n) [G]§ 115.726(a)(2) |
| 1796-09J | EP | R5121-01 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream specified in §115.121(a)(1) of this title with a concentration of VOC less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title. | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| 1796-09J | EP | R5121-02 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) equal to or less than 100 pounds in any continuous 24-hour period is exempt from | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|--|---|---|---|
| | | | | | | §115.121(a)(1) of this title. | | | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(iii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) | Heat exchanger heads, sight glasses, meters, gauges, sampling connections, bolted manways, hatches, sump covers, junction box vents, and covers and seals on VOC water separators within the process unit or processes listed in §115.780(a) in which a HRVOC is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.781(b) § 115.781(b)(10) § 115.781(b)(3) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(f) § 115.781(f)(1) § 115.781(f)(2) § 115.781(f)(3) § 115.781(f)(4) § 115.781(f)(5) § 115.781(f)(6) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) § 115.789(1)(B) | § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.789(1)(B) |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) [G]§ 115.781(d) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(2) § 115.782(c)(2)(A) § 115.782(c)(2)(A)(i) § 115.782(c)(2)(A)(ii) § 115.782(c)(2)(B) § 115.783(1) § 115.783(1)(A) § 115.783(1)(B) | Bypass line valves within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined | § 115.781(b) § 115.781(b)(10) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) [G]§ 115.781(d) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) § 115.786(a)(1) | § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) § 115.782(c)(2)(A)(ii) § 115.786(a)(1) § 115.786(a)(2) § 115.786(a)(2)(A) § 115.786(a)(2)(B) § 115.786(b)(1) § 115.786(b)(2) § 115.786(b)(2)(A) § 115.786(b)(2)(B) § 115.786(b)(2)(C) [G]§ 115.786(b)(3) | § 115.782(c)(2)(A)(ii) [G]§ 115.786(c) § 115.788(c) [G]§ 115.788(d) § 115.788(e) [G]§ 115.788(g) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|--|-------------------------------------|---|--|
| | | | | | § 115.783(5) § 115.787(f) § 115.787(f)(4) § 115.787(g) § 115.788(a) § 115.788(a)(1) § 115.788(a)(2) § 115.788(a)(2)(A) § 115.788(a)(2)(B) § 115.788(a)(2)(C) § 115.788(a)(2)(C)(i) § 115.788(a)(2)(C)(ii) § 115.788(a)(2)(C)(iii) § 115.788(a)(2)(D) § 115.788(a)(3) § 115.788(a)(3)(A) § 115.788(a)(3)(B) [G]§ 115.788(g) | as a screening concentration greater than 500 ppmv above background as methane for all components. | | [G]§ 115.786(c) § 115.786(d) § 115.786(d)(2) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) [G]§ 115.788(g) | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.787(d) § 115.780(b) [G]§ 115.781(a) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) | All 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). Submerged pumps or sealless pumps may be used to satisfy the requirements of this subsection. | § 115.782(d)(2) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) § 115.783(3)(C) [G]§ 115.786(c) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|--|-------------------------------------|---|--|
| | | | | | § 115.787(b)(1) § 115.787(g) | | | | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.787(d) § 115.780(b) [G]§ 115.781(a) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(iii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1) § 115.787(g) | All 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 §115.781(b) and (c). Submerged pumps or sealless pumps may be used to satisfy the requirements of this subsection. | § 115.782(d)(2) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) § 115.783(3)(C) [G]§ 115.786(c) |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.787(d) § 115.780(b) [G]§ 115.781(a) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(iii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1) § 115.787(g) | All pumps 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). Submerged pumps or sealless pumps may be used to satisfy the requirements of this subsection. | § 115.782(d)(2) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) § 115.783(3)(C) [G]§ 115.786(c) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|---|--|--|--|--|
| | | | | | § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1) § 115.787(g) | subsection. | | | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(2) § 115.782(c)(2)(A) § 115.782(c)(2)(A)(i) § 115.782(c)(2)(A)(ii) § 115.782(c)(2)(B) § 115.783(5) § 115.787(f) § 115.787(f)(2) § 115.787(f)(3) § 115.787(f)(4) § 115.787(g) § 115.788(a) § 115.788(a)(1) § 115.788(a)(2) § 115.788(a)(2)(A) § 115.788(a)(2)(B) § 115.788(a)(2)(C) § 115.788(a)(2)(C)(i) § 115.788(a)(2)(C)(ii) § 115.788(a)(2)(C)(iii) § 115.788(a)(2)(D) § 115.788(a)(3) | Open-ended valves or lines within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(3) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(f) § 115.781(f)(1) § 115.781(f)(2) § 115.781(f)(3) § 115.781(f)(4) § 115.781(f)(5) § 115.781(f)(6) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) § 115.789(1)(B) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) § 115.782(c)(2)(A)(ii) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(2) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) [G]§ 115.788(g) | § 115.782(c)(2)(A)(ii) [G]§ 115.786(c) § 115.788(c) [G]§ 115.788(d) § 115.788(e) [G]§ 115.788(g) § 115.789(1)(B) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|--|--|---|--|
| | | | | | § 115.788(a)(3)(A) § 115.788(a)(3)(B) [G]§ 115.788(g) | | | | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.358(c)(1) [G]§ 115.358(h) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(2) § 115.782(b)(3) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) | Components within the process unit or processes listed in §115.780(a) is subject to the requirements of this division. If the owner of operator elects to use the alternative work practice in §115.358 of this title, 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. | § 115.354(1) § 115.354(11) § 115.354(13)(A) § 115.354(13)(B) § 115.354(13)(C) § 115.354(13)(D) § 115.354(13)(E) § 115.354(13)(F) § 115.354(4) § 115.354(5) § 115.354(9) § 115.358(c)(2) § 115.358(d) [G]§ 115.358(e) § 115.358(f) § 115.781(b) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(h)(1) § 115.781(h)(2) § 115.781(h)(3) § 115.781(h)(4) § 115.781(h)(5) [G]§ 115.781(h)(6) § 115.782(b)(4) § 115.782(d)(1) § 115.788(h)(1) [G]§ 115.788(h)(2) § 115.788(h)(3) | § 115.354(13)(D) § 115.354(13)(E) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(4) § 115.356(5) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) [G]§ 115.786(f) § 115.786(g) | [G]§ 115.358(g) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) |
| 1796-12A | EU | R5780-ALL | Highly Reactive | 30 TAC Chapter 115, HRVOC | § 115.781(b)(9) § 115.780(b) | Agitators within a petroleum refinery; | § 115.354(1) § 115.354(10) | § 115.354(10) § 115.356 | [G]§ 115.782(c)(1)(B)(i) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|---|--|--|--|--|
| | | | VOC | Fugitive Emissions | [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) | 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(3) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(c)(1) § 115.781(c)(2) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) | [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | § 115.783(3)(C) [G]§ 115.786(c) |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) | Pump seals within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(c)(1) § 115.781(c)(2) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) | [G]§ 115.782(c)(1)(B)(i) § 115.783(3)(C) [G]§ 115.786(c) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|---|--|---|--|--|
| | | | | | § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1) | background as methane for all components. | | § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(iii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.782(c)(1)(C)(i) § 115.782(c)(1)(C)(i)(I) § 115.782(c)(1)(C)(i)(II) § 115.782(c)(1)(C)(i)(III) § 115.782(c)(1)(C)(ii) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) | Compressor seals within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(c)(1) § 115.781(c)(2) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) § 115.783(3)(C) [G]§ 115.786(c) | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.787(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 | None | § 115.786(e) § 115.786(g) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|--|---|--|---|
| | | | | | | (g) of this title (relating to Record keeping Requirements). | | | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) § 115.783(4)(A)(i) § 115.783(4)(A)(ii) § 115.783(4)(A)(ii)(I) § 115.783(4)(A)(ii)(II) § 115.783(4)(B) § 115.783(4)(B)(i) § 115.783(4)(B)(ii) | Process drains within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(1) § 115.354(10) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(3) § 115.781(b)(4) § 115.781(b)(5) § 115.781(b)(6) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) | Pressure relief valves (in gaseous service) within a 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 is a raw material, intermediate, final product, | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(4) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.788(c) [G]§ 115.788(d) § 115.788(e) [G]§ 115.788(g) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|---|---|--|--|
| | | | | | § 115.782(c)(1)(B)(iv) § 115.787(e) § 115.787(f) § 115.787(g) § 115.788(a) § 115.788(a)(1) § 115.788(a)(2) § 115.788(a)(2)(A) § 115.788(a)(2)(B) § 115.788(a)(2)(C) § 115.788(a)(2)(C)(i) § 115.788(a)(2)(C)(ii) § 115.788(a)(2)(C)(iii) § 115.788(a)(2)(D) § 115.788(a)(3) § 115.788(a)(3)(A) § 115.788(a)(3)(B) [G]§ 115.788(g) | or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.781(b)(8) § 115.781(e) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) [G]§ 115.788(g) | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(1) § 115.782(c)(1)(A) § 115.782(c)(1)(B) [G]§ 115.782(c)(1)(B)(i) § 115.782(c)(1)(B)(ii) [G]§ 115.782(c)(1)(B)(iii) § 115.782(c)(1)(B)(iv) | Flanges or other connectors within a 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 is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(3) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(f) § 115.781(f)(1) § 115.781(f)(2) § 115.781(f)(3) § 115.781(f)(4) § 115.781(f)(5) § 115.781(f)(6) § 115.781(g) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(1) § 115.786(d)(2) § 115.786(d)(2)(A) § 115.786(d)(2)(B) § 115.786(d)(2)(C) § 115.786(e) | [G]§ 115.782(c)(1)(B)(i) [G]§ 115.786(c) § 115.789(1)(B) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|--|---|--|--|---|
| | | | | | | | § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) § 115.789(1)(B) | § 115.786(g) | |
| 1796-12A | EU | R5780-ALL | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Fugitive Emissions | § 115.781(b)(9) § 115.780(b) [G]§ 115.781(a) § 115.781(g)(3) § 115.782(a) § 115.782(b)(1) § 115.782(b)(2) § 115.782(c)(2) § 115.782(c)(2)(A) § 115.782(c)(2)(A)(i) § 115.782(c)(2)(A)(ii) § 115.782(c)(2)(B) § 115.783(5) § 115.787(f) § 115.787(f)(4) § 115.787(g) § 115.788(a) § 115.788(a)(1) § 115.788(a)(2) § 115.788(a)(2)(A) § 115.788(a)(2)(B) § 115.788(a)(2)(C) § 115.788(a)(2)(C)(i) § 115.788(a)(2)(C)(ii) § 115.788(a)(2)(C)(iii) § 115.788(a)(2)(D) § 115.788(a)(3) § 115.788(a)(3)(A) § 115.788(a)(3)(B) [G]§ 115.788(g) | Valves within a petroleum refinery; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or natural gas/gasoline processing operation which a highly-reactive volatile organic compound is a raw material, intermediate, final product, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than 500 ppmv above background as methane for all components. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) § 115.781(b) § 115.781(b)(10) § 115.781(b)(4) § 115.781(b)(7) § 115.781(b)(7)(A) § 115.781(b)(7)(B) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) | § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) § 115.781(b)(10) § 115.781(g) § 115.781(g)(1) § 115.781(g)(2) § 115.781(g)(3) § 115.782(c)(2)(A)(ii) [G]§ 115.786(c) § 115.786(d) § 115.786(d)(2) § 115.786(d)(2)(C) § 115.786(e) § 115.786(g) [G]§ 115.788(g) | § 115.782(c)(2)(A)(ii) [G]§ 115.786(c) § 115.788(c) [G]§ 115.788(d) § 115.788(e) [G]§ 115.788(g) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) | No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening | [G]§ 115.355 | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|--|---|---|
| | | | | | § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(3) § 115.357(8) | concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | | [G]§ 115.356(3)(C) § 115.356(5) | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(4) § 115.357(8) | No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | [G]§ 115.355 | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8) | No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. | § 115.352(1)(B) § 115.352(1) | No compressor seals shall be allowed to have a VOC | § 115.354(1) § 115.354(10) | § 115.352(7) § 115.354(10) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|--|---|--|
| | | | | Refinery & Petrochemicals | § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8) | leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 | § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(4) § 115.357(8) | No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | [G]§ 115.355 | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) | No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|--|---|--|---|
| | | | | | § 115.357(8) | | | | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8) | No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(7) § 115.357(12) § 115.357(8) | No agitators shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(7) § 115.357(12) § 115.357(8) | No agitators shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|--|--|--|
| | | | | | § 115.357(1) § 115.357(12) § 115.357(8) | sight, smell, or sound. | | | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(iii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(7) § 115.357(1) § 115.357(12) § 115.357(8) | No agitators shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8) | No flanges or other connectors shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8) | No flanges or other connectors shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background | § 115.354(1) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|--|--|--|
| | | | | | § 115.357(1) § 115.357(12) § 115.357(8) | as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | | | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.357(12) § 115.357(8) § 115.357(9) | No valves shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | [G]§ 115.354(7) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.357(1) § 115.357(8) § 115.357(9) | No valves shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | [G]§ 115.354(7) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) | No open-ended valves or lines shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) | [G]§ 115.354(7) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|--|--|--|
| | | | | | § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.357(12) § 115.357(8) § 115.357(9) | million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | [G]§ 115.355 | § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(9) § 115.357(12) § 115.357(8) § 115.357(9) | No pressure relief valves shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(10) § 115.354(2) § 115.354(4) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | [G]§ 115.354(7) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(9) § 115.357(1) § 115.357(8) § 115.357(9) | No pressure relief valves shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(2) § 115.354(4) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | [G]§ 115.354(7) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) | No process drains shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration | § 115.354(1) § 115.354(10) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 | § 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|---|---|--|--|
| | | | | | § 115.352(7) | greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | | § 115.356(3)(A) § 115.356(3)(B) § 115.356(5) | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7) § 115.357(1) | No process drains shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(C) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.352(8) § 115.357(8) § 115.358(c)(1) [G]§ 115.358(h) | No component shall be allowed to have a VOC leak, for more than 15 days, after discovery. If the owner or operator elects to use the alternative work practice in §115.358 of this title, 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 but not specifically selected for alternative work practice monitoring. | § 115.354(1) § 115.354(11) § 115.354(13)(A) § 115.354(13)(B) § 115.354(13)(C) § 115.354(13)(D) § 115.354(13)(E) § 115.354(13)(F) § 115.354(4) § 115.354(5) § 115.354(9) [G]§ 115.355 § 115.358(c)(2) § 115.358(d) [G]§ 115.358(e) § 115.358(f) | § 115.352(7) § 115.354(13)(D) § 115.354(13)(E) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) [G]§ 115.356(4) § 115.356(5) | [G]§ 115.358(g) |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. | § 115.357(2) § 115.352(9) | Each pressure relief valve equipped with a rupture | None | § 115.356 § 115.356(3) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|--|-------------------------------------|--|--|
| | | | | Refinery & Petrochemicals | | disk must comply with §115.352(9) and §115.356(3)(C). | | [G]§ 115.356(3)(C) | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.357(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. | None | § 115.356 § 115.356(3) [G]§ 115.356(3)(C) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.357(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. | None | § 115.356 § 115.356(3) [G]§ 115.356(3)(C) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.357(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. | None | § 115.356 § 115.356(3) [G]§ 115.356(3)(C) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & | § 115.357(5) | Reciprocating compressors and positive displacement pumps used | None | § 115.356 § 115.356(3) [G]§ 115.356(3)(C) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|---|---|---|--|
| | | | | Petrochemicals | | in natural gas/gasoline processing operations are exempt from the requirements of this division except §115.356(3)(C) of this title. | | | |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.357(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. | None | § 115.356 § 115.356(3) [G]§ 115.356(3)(C) | None |
| 1796-12A | EU | R5352-ALL | VOC | 30 TAC Chapter 115, Pet. Refinery & Petrochemicals | § 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.357(1) | No open-ended valves or lines shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound. | § 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 § 115.357(1) | § 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5) | [G]§ 115.354(7) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|---|---|--|
| | | | | | § 115.357(8) § 115.357(9) | | | | |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-4(a) § 60.482-4(b)(1) § 60.482-4(c) § 60.482-4(d)(1) § 60.482-4(d)(2) § 60.482-9(a) § 60.482-9(b) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-4 for pressure relief devices in gas/vapor service. | § 60.482-4(b)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(3) [G]§ 60.486(e)(4) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-5(a) [G]§ 60.482-5(b) § 60.482-5(c) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-5 for sampling connection systems. | § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-6(a)(1) § 60.482-6(a)(2) § 60.482-6(b) § 60.482-6(c) § 60.482-6(d) § 60.482-6(e) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-6 for open-ended valves and lines. | § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|--|---|--|--|--|
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-7(b) § 60.482-7(d)(1) § 60.482-7(d)(2) [G]§ 60.482-7(e) [G]§ 60.482-7(f) [G]§ 60.482-7(g) [G]§ 60.482-7(h) § 60.482-9(a) § 60.482-9(b) [G]§ 60.482-9(c) § 60.482-9(e) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-7 for valves in gas/vapor or light-liquid service. | § 60.482-1(f)(1) § 60.482-1(f)(2) [G]§ 60.482-1(f)(3) § 60.482-7(a)(1) [G]§ 60.482-7(a)(2) § 60.482-7(c)(1)(i) § 60.482-7(c)(1)(ii) § 60.482-7(c)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(f) [G]§ 60.486(g) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-8(a) § 60.482-8(a)(2) § 60.482-8(b) § 60.482-8(c)(1) § 60.482-8(c)(2) § 60.482-8(d) § 60.482-9(a) § 60.482-9(b) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-8 for flanges or other connectors. | § 60.482-8(a)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) | Comply with the requirements in as stated in §60.482-8 for valves in heavy-liquid service. | § 60.482-8(a)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|---|--|--|
| | | | | | § 60.482-8(a) § 60.482-8(a)(2) § 60.482-8(b) § 60.482-8(c)(1) § 60.482-8(c)(2) § 60.482-8(d) § 60.482-9(a) § 60.482-9(b) [G]§ 60.482-9(c) § 60.482-9(e) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | | [G]§ 60.485(e) § 60.485(f) § 60.562-2(d) | § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-8(a) § 60.482-8(a)(2) § 60.482-8(b) § 60.482-8(c)(1) § 60.482-8(c)(2) § 60.482-8(d) § 60.482-9(a) § 60.482-9(b) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-8 for pressure relief devices in light-liquid or heavy-liquid service. | § 60.482-8(a)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) [G]§ 60.482-1(e) § 60.486(k) | Comply with the requirements in as stated in §60.482-1(e) for equipment in VOC service < 300 hours/year. | None | [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(6) § 60.486(j) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) | Comply with the requirements as stated in §60.482-2 for pumps in light-liquid service. | § 60.482-1(f)(1) § 60.482-1(f)(2) [G]§ 60.482-1(f)(3) [G]§ 60.482-2(a) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|---|--|--|
| | | | | | § 60.482-2(b)(1) [G]§ 60.482-2(b)(2) § 60.482-2(c)(1) [G]§ 60.482-2(c)(2) § 60.482-2(d) [G]§ 60.482-2(d)(1) § 60.482-2(d)(2) § 60.482-2(d)(3) [G]§ 60.482-2(d)(4) [G]§ 60.482-2(d)(5) [G]§ 60.482-2(d)(6) [G]§ 60.482-2(e) § 60.482-2(f) [G]§ 60.482-2(g) § 60.482-2(h) § 60.482-9(a) § 60.482-9(b) [G]§ 60.482-9(d) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | | [G]§ 60.482-2(b)(2) [G]§ 60.482-2(d)(4) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f) § 60.562-2(d) | § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) § 60.486(f) [G]§ 60.486(h) § 60.486(j) § 60.562-2(e) | § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-3(a) [G]§ 60.482-3(b) § 60.482-3(c) § 60.482-3(d) § 60.482-3(e)(1) § 60.482-3(e)(2) § 60.482-3(f) § 60.482-3(g)(1) § 60.482-3(g)(2) § 60.482-3(h) [G]§ 60.482-3(i) § 60.482-3(j) § 60.482-9(a) § 60.482-9(b) | Comply with the requirements as stated in §60.482-3 for compressors. | § 60.482-3(e)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|---|--|--|--|---|
| | | | | | § 60.486(k) § 60.562-2(d) § 60.562-2(e) | | | | |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-8(a) § 60.482-8(a)(2) § 60.482-8(b) § 60.482-8(c)(1) § 60.482-8(c)(2) § 60.482-8(d) § 60.482-9(a) § 60.482-9(b) [G]§ 60.482-9(d) § 60.482-9(f) § 60.486(k) § 60.562-2(d) § 60.562-2(e) | Comply with the requirements in as stated in §60.482-8 for pumps in heavy-liquid service. | § 60.482-8(a)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f) § 60.562-2(d) | § 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 60DDD-ALL | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.562-2(a) § 60.482-1(d) § 60.486(k) § 60.562-2(e) | Comply with the requirements as stated in §60.482-1(d) for equipment in vacuum service. | None | [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(5) § 60.486(j) § 60.562-2(e) | § 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.562-2(e) § 60.565(l) |
| 1796-12A | EU | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2480(a) The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart FFFF | The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart FFFF | The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart FFFF | The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart FFFF | The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart FFFF |
| E-531 | EU | R5760-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Cooling Towers | § 115.761(c)(1) § 115.761(c)(3) § 115.764(a)(1) § 115.766(i) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 1 | § 115.764(a)(1) § 115.764(a)(3) [G]§ 115.764(a)(6) § 115.764(c) | § 115.766(a)(1) § 115.766(a)(2) § 115.766(a)(3) § 115.766(a)(5) | § 115.766(i)(2) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|--|---|---|--|---|--|
| | | | | | | of this subchapter must not exceed 1,200 pounds of HRVOCs per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.764(g)(2) | § 115.766(a)(6) § 115.766(c) [G]§ 115.766(g) [G]§ 115.766(h) § 115.766(i)(1) | |
| E-531 | EU | R5760-02 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Cooling Towers | § 115.761(c)(1) § 115.761(c)(3) § 115.766(i) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 1 of this subchapter must not exceed 1,200 pounds of HRVOCs per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.764(a)(3) [G]§ 115.764(a)(6) § 115.764(c) § 115.764(e)(1) | § 115.766(a)(1) § 115.766(a)(2) § 115.766(a)(3) § 115.766(a)(5) § 115.766(a)(6) § 115.766(c) [G]§ 115.766(e) [G]§ 115.766(g) [G]§ 115.766(h) § 115.766(i)(1) | § 115.766(i)(2) |
| EMG-591A | EU | R7300-1 | Exempt | 30 TAC Chapter 117, Subchapter B | [G]§ 117.303(a)(11) [G]§ 117.310(f) | Units exempted from the provisions of this division except as specified in §§117.310(f), 117.340(j), 117.345(f)(6) and (10), 117.350(c)(1) and 117.354(a)(5) include new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001, that operates less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and meets the requirements for non-road engines as specified. §117.303(a)(11)(A)-(B) | None | § 117.340(j) § 117.345(f) [G]§ 117.345(f)(10) [G]§ 117.345(f)(6) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|--------------------------|---------------------------------------|--|--|-------------------------------------|--|--|
| EMG-591A | EU | 60III-1 | CO | 40 CFR Part 60, Subpart IIII | § 60.4205(b) § 60.4202(a)(2) § 60.4206 [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a) | Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a). | None | None | [G]§ 60.4214(d) |
| EMG-591A | EU | 60III-1 | NMHC and NO _x | 40 CFR Part 60, Subpart IIII | § 60.4205(b) § 60.4202(a)(2) § 60.4206 [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a) | Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NO _x emission limit of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a). | None | None | [G]§ 60.4214(d) |
| EMG-591A | EU | 60III-1 | PM | 40 CFR Part 60, Subpart IIII | § 60.4205(b) § 60.4202(a)(2) § 60.4206 [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) | Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 | None | None | [G]§ 60.4214(d) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|--------------|---------------------------------------|---|---|-------------------------------------|---|---|
| | | | | | § 60.4218 § 89.112(a) | KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a). | | | |
| EMG-591A | EU | 60III-1 | PM (Opacity) | 40 CFR Part 60, Subpart III | § 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.113(a)(1) § 89.113(a)(2) § 89.113(a)(3) | Emergency stationary CI ICE, that are not fire pump engines, with displacement < 10 lpc and not constant-speed engines, with max engine power < 2237 KW and a 2007 model year and later or max engine power > 2237 KW and a 2011 model year and later, must comply with following opacity emission limits: 20% during acceleration, 15% during lugging, 50% during peaks in either acceleration or lugging modes as stated in §60.4202(a)(1)-(2), (b)(2) and §89.113(a)(1)-(3) and §1039.105(b)(1)-(3). | None | None | [G]§ 60.4214(d) |
| EMG-591A | EU | 63ZZZZ-1 | 112(B) HAPS | 40 CFR Part 63, Subpart ZZZZ | § 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) § 63.6640(f)(2) § 63.6640(f)(2)(i) § 63.6640(f)(3) | An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part | None | None | § 63.6645(f) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|---------------------------------------|---|---|---|---|--|
| | | | | | | except for the initial notification requirements of §63.6645(f). | | | |
| FS-541 | CD | R1111-01 | Opacity | 30 TAC Chapter 111, Visible Emissions | § 111.111(a)(4)(A) | Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period. Non-excessive upset events are subject to the provisions under §101.222(b). | § 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii) | § 111.111(a)(4)(A)(ii) | None |
| FS-541 | EP | R5722-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(d) § 115.722(d)(1) § 115.722(d)(2) [G]§ 115.725(d)(1) § 115.725(d)(2) § 115.725(d)(2)(A)(i) [G]§ 115.725(d)(2)(A)(ii) § 115.725(d)(2)(A)(iii) § 115.725(d)(2)(A)(iv) § 115.725(d)(2)(B) § 115.725(d)(2)(B)(i) § 115.725(d)(2)(B)(ii) § 115.725(d)(2)(B)(iii) § 115.725(d)(2)(B)(iv) [G]§ 115.725(l) [G]§ 115.726(a)(2) | All flares must continuously meet the requirements of 40 CFR § 60.18(c)(2)-(6) and (d) as amended through October 17, 2000 (65 FR 61744) when vent gas containing HRVOC is being routed to the flare. | [G]§ 115.725(d)(1) § 115.725(d)(2) § 115.725(d)(2)(A)(i) [G]§ 115.725(d)(2)(A)(ii) § 115.725(d)(2)(A)(iii) § 115.725(d)(2)(A)(iv) § 115.725(d)(2)(B) § 115.725(d)(2)(B)(i) § 115.725(d)(2)(B)(ii) § 115.725(d)(2)(B)(iii) § 115.725(d)(2)(B)(iv) § 115.725(d)(3) § 115.725(d)(4) § 115.725(d)(5) § 115.725(d)(6) § 115.725(d)(7) § 115.725(k)(1) [G]§ 115.725(l) § 115.725(n) | § 115.726(a)(1) § 115.726(a)(1)(A) § 115.726(d)(1) § 115.726(d)(10) § 115.726(d)(2) § 115.726(d)(3) § 115.726(d)(4) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | § 115.725(n) § 115.726(a)(1)(B) [G]§ 115.726(a)(2) |
| FS-541 | CD | 60A-01 | Opacity | 40 CFR Part 60, Subpart A | § 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(i) § 60.18(c)(6) § 60.18(e) | Flares shall comply with paragraphs (c)-(f) of § 60.18. | § 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4) | None | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|---|--|--|
| FS-541 | CD | 60A-02 | Opacity | 40 CFR Part 60, Subpart A | § 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(ii) § 60.18(c)(6) § 60.18(e) | Flares shall comply with paragraphs (c)-(f) of § 60.18. | § 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4) | None | None |
| FS-541 | CD | 60A-03 | Opacity | 40 CFR Part 60, Subpart A | § 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(iii) § 60.18(c)(6) § 60.18(e) | Flares shall comply with paragraphs (c)-(f) of § 60.18. | § 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4) § 60.18(f)(5) | None | None |
| FS-541 | CD | 63A-01 | Opacity | 40 CFR Part 63, Subpart A | § 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i) | Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used. | § 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i) | None | None |
| FS-541 | CD | 63A-02 | Opacity | 40 CFR Part 63, Subpart A | § 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(ii) | Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used. | § 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i) | None | None |
| FS-541 | CD | 63A-03 | Opacity | 40 CFR Part 63, Subpart A | § 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) | Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test | § 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i) | None | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|-------------------------------------|--|---|
| | | | | | § 63.11(b)(7)(iii) | Method 22 in App. A of part 60 of this chapter shall be used. | | | |
| FS-541 | CD | 60A-01-FFFF | OPACITY | 40 CFR Part 63, Subpart FFFF | [G]§ 63.670 [G]§ 63.2450(e)(5) [G]§ 63.2535(m) [G]§ 63.671 | Visible emissions. The owner or operator shall specify the smokeless design capacity of each flare and operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the flare as specified in §63.670(h). | [G]§ 63.670 [G]§ 63.671 | [G]§ 63.2525(m) [G]§ 63.670 [G]§ 63.671 | § 63.2520(d)(3) [G]§ 63.2520(e)(11) [G]§ 63.670 |
| FS-541 | CD | 60A-02-FFFF | OPACITY | 40 CFR Part 63, Subpart FFFF | [G]§ 63.670 [G]§ 63.2450(e)(5) [G]§ 63.2535(m) [G]§ 63.671 | Visible emissions. The owner or operator shall specify the smokeless design capacity of each flare and operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the | [G]§ 63.670 [G]§ 63.671 | [G]§ 63.2525(m) [G]§ 63.670 [G]§ 63.671 | § 63.2520(d)(3) [G]§ 63.2520(e)(11) [G]§ 63.670 |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|---|-------------------------------------|--|---|
| | | | | | | flare as specified in §63.670(h). | | | |
| FS-541 | CD | 63A-01-FFFF | OPACITY | 40 CFR Part 63, Subpart FFFF | [G]§ 63.670 [G]§ 63.2450(e)(5) [G]§ 63.2535(m) [G]§ 63.671 | Visible emissions. The owner or operator shall specify the smokeless design capacity of each flare and operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the flare as specified in §63.670(h). | [G]§ 63.670 [G]§ 63.671 | [G]§ 63.2525(m) [G]§ 63.670 [G]§ 63.671 | § 63.2520(d)(3) [G]§ 63.2520(e)(11) [G]§ 63.670 |
| FS-541 | CD | 63A-02-FFFF | OPACITY | 40 CFR Part 63, Subpart FFFF | [G]§ 63.670 [G]§ 63.2450(e)(5) [G]§ 63.2535(m) [G]§ 63.671 | Visible emissions. The owner or operator shall specify the smokeless design capacity of each flare and operate with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the flare as specified in | [G]§ 63.670 [G]§ 63.671 | [G]§ 63.2525(m) [G]§ 63.670 [G]§ 63.671 | § 63.2520(d)(3) [G]§ 63.2520(e)(11) [G]§ 63.670 |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|---------------------------------------|---|---|---|--|--|
| | | | | | | §63.670(h). | | | |
| FS541VENTS | EP | R5722-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.722(d) § 115.722(d)(1) § 115.722(d)(2) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(n) | § 115.726(d)(1) § 115.726(d)(2) § 115.726(d)(3) § 115.726(d)(4) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | § 115.725(n) |
| FS541VENTS | EP | R5121-01 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(B) § 60.18 | Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices). | [G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2) ** See CAM Summary | § 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2) | None |
| FS541VENTS | EP | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.11(b) § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) | For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare. | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.987(c) § 63.997(b) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.987(c) § 63.998(a)(1)(ii) § 63.998(a)(1)(iii)(A) § 63.998(a)(1)(iii)(B) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) § 63.998(d)(1) § 63.998(d)(3)(i) | § 63.2450(f)(2)(ii) § 63.2450(q) § 63.997(b)(1) § 63.997(c)(3) § 63.998(a)(1)(iii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(3) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|----------------|---------------------|---------------------------------------|---|--|--|---|---|
| | | | | | § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | | § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | § 63.998(d)(3)(ii) § 63.998(d)(5) | [G]§ 63.999(d)(2) |
| FS541VENTS | EP | 63FFFF-01-FFFF | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.2450(b) [G]§ 63.2450(e)(5) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) [G]§ 63.2535(m) [G]§ 63.670 § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | For each Group 1continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare. | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) [G]§ 63.671 § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) [G]§ 63.2525(m) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.2450(f)(2)(ii) § 63.2450(q) § 63.2520(d)(3) [G]§ 63.2520(e)(11) § 63.997(b)(1) § 63.997(c)(3) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |
| G-544 | EU | R5131-01 | VOC | 30 TAC Chapter 115, Water Separation | § 115.137(a)(2) [G]§ 115.132(a)(4) | Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure of VOC < .5 psia obtained from any equipment is exempt from §115.132(a). | [G]§ 115.135(a) § 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4) | § 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4) | None |
| GRPFINISH | EP | R5722-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) [G]§ 115.726(h) § 115.726(i) | [G]§ 115.725(a)(4) § 115.725(a)(5) § 115.725(n) [G]§ 115.726(a)(2) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|---------------------------------------|---|--|--|--|--|
| | | | | | § 115.725(a)(3) [G]§ 115.725(a)(4) [G]§ 115.725(l) [G]§ 115.726(a)(2) | not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(l) § 115.725(n) | § 115.726(j)(1) § 115.726(j)(2) | |
| GRPFINISH | EP | R5722-02 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) [G]§ 115.725(a)(4) § 115.725(a)(7) § 115.725(a)(7)(C) [G]§ 115.725(l) [G]§ 115.726(a)(2) | HRVOC emissions at each site located in Harris County that is subject to this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(a)(7)(C) [G]§ 115.725(l) § 115.725(n) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(n) [G]§ 115.726(a)(2) |
| GRPFINISH | EP | R5121-01 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream specified in §115.121(a)(1) of this title with a concentration of VOC less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title. | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| GRPFINISH | EP | R5121-02 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title. | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| GRPHCL | EP | R5722-01 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) | HRVOC emissions at each site located in Harris County that is subject to | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) | [G]§ 115.725(a)(4) § 115.725(a)(5) § 115.725(n) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|---------------------|---------------------------------------|---|---|--|--|--|
| | | | | | § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) [G]§ 115.725(a)(4) [G]§ 115.725(l) [G]§ 115.726(a)(2) | this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a)(1)(C) § 115.725(a)(3) § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(l) § 115.725(n) | [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | [G]§ 115.726(a)(2) |
| GRPHCL | EP | R5722-02 | Highly Reactive VOC | 30 TAC Chapter 115, HRVOC Vent Gas | § 115.722(c)(1) § 115.722(c)(3) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) [G]§ 115.725(a)(4) § 115.725(a)(7) § 115.725(a)(7)(C) [G]§ 115.725(l) [G]§ 115.726(a)(2) | HRVOC emissions at each site located in Harris County that is subject to this division or Division 2 of this subchapter must not exceed 1,200 pounds of HRVOC per one-hour block period from any flare, vent, pressure relief valve, cooling tower, or any combination. | § 115.725(a) § 115.725(a)(1)(A) § 115.725(a)(1)(B) § 115.725(a)(1)(C) § 115.725(a)(3) § 115.725(a)(3)(B) [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(a)(7)(C) [G]§ 115.725(l) § 115.725(n) | § 115.726(b)(1) § 115.726(b)(2) § 115.726(b)(3) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2) | [G]§ 115.725(a)(4) § 115.725(a)(5) [G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(n) [G]§ 115.726(a)(2) |
| GRPHCL | EP | R5121-01 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream specified in §115.121(a)(1) of this title with a concentration of VOC less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title. | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| GRPHCL | EP | R5121-02 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2) | A vent gas stream having a combined weight of volatile organic compounds (VOC) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title. | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) § 115.126(4) | None |
| H-550XVENTS | EP | R5121- | VOC | 30 TAC Chapter | § 115.122(a)(1) | Vent gas streams affected | [G]§ 115.125 | § 115.126 | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|---|---|--|---|---|
| | | 01 | | 115, Vent Gas Controls | § 115.121(a)(1) § 115.122(a)(1)(C) | by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices). | § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(iii) § 115.126(2) | § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(iii) § 115.126(2) | |
| H-550XVENTS | EP | R5121-03 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(B) § 60.18 | Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices). | [G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2) | § 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2) | None |
| H-550XVENTS | EP | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(i) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.988(a)(1) § 63.988(a)(2) | For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by greater than or equal to 98 percent by weight by venting emissions through a closed-vent system to any combination of control devices (except flare). | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(6) § 63.983(a)(3) § 63.983(a)(3)(i) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) | § 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(a)(3)(i) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.996(c)(2)(ii) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(1) § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) [G]§ 63.998(c)(2)(iii) | § 63.2450(q) § 63.988(b)(1) § 63.996(b)(2) § 63.996(c)(6) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) [G]§ 63.999(b)(3) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(ii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|--|--|--|--|---|
| | | | | | § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5) § 63.996(c)(6) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d) | | § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(1) § 63.996(b)(1) § 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) [G]§ 63.997(e)(2)(i)(A) § 63.997(e)(2)(ii) § 63.997(e)(2)(iv) § 63.997(e)(2)(iv)(A) [G]§ 63.997(e)(2)(iv)(B) § 63.997(e)(2)(iv)(C) § 63.997(e)(2)(iv)(D) § 63.997(e)(2)(iv)(F) § 63.997(e)(2)(iv)(G) [G]§ 63.997(e)(2)(iv)(H) | § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | |
| H-550XVENTS | EP | 63FFFF-02 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2450(i)(1) § 63.2450(i)(2) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) | For each Group 1 continuous process vent, the owner or operator must reduce emissions to an outlet process concentration less than or equal to 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(6) § 63.983(a)(3) § 63.983(a)(3)(i) § 63.983(b) | § 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(a)(3)(i) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.996(c)(2)(ii) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(1) | § 63.2450(q) § 63.988(b)(1) § 63.996(b)(2) § 63.996(c)(6) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) [G]§ 63.999(b)(3) § 63.999(b)(5) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|---|---|--|---|---|
| | | | | | § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(i) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.988(a)(1) § 63.988(a)(2) § 63.996(c)(1) § 63.996(c)(2) § 63.996(c)(2)(i) § 63.996(c)(3) § 63.996(c)(4) § 63.996(c)(5) § 63.996(c)(6) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d) | devices (except flare). | [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(1) § 63.996(b)(1) § 63.996(b)(1)(i) § 63.996(b)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) § 63.997(e)(2)(i)(B) § 63.997(e)(2)(ii) § 63.997(e)(2)(iii) § 63.997(e)(2)(iii)(A) [G]§ 63.997(e)(2)(iii)(B) [G]§ 63.997(e)(2)(iii)(C) [G]§ 63.997(e)(2)(iii)(D) [G]§ 63.997(e)(2)(iii)(E) | § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(ii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) |
| H-550XVENTS | EP | 63FFFF-03 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.11(b) § 63.2450(b) § 63.2455(a) § 63.2455(b) | For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) | § 63.2450(f)(2)(ii) § 63.2450(q) § 63.997(b)(1) § 63.997(c)(3) § 63.998(a)(1)(iii)(A) [G]§ 63.998(b)(3) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|----------------|-------------|---------------------------------------|--|--|--|---|---|
| | | | | | § 63.2455(b)(1) § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | a closed vent system to a flare. | [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.987(c) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | § 63.987(c) § 63.998(a)(1)(ii) § 63.998(a)(1)(iii)(A) § 63.998(a)(1)(iii)(B) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(3) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |
| H-550XVENTS | EP | 63FFFF-03-FFFF | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.11(b) § 63.2450(b) [G]§ 63.2450(e)(5) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) [G]§ 63.2535(m) [G]§ 63.670 § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare. | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) [G]§ 63.671 § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) [G]§ 63.2525(m) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.2450(d)(3) § 63.2450(f)(2)(ii) § 63.2450(q) [G]§ 63.2520(e)(11) § 63.997(b)(1) § 63.997(c)(3) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |
| H549VENTS | EP | R5121-01 | VOC | 30 TAC Chapter 115, Vent Gas | § 115.123(a)(1) § 115.910 | Alternate methods of demonstrating and | [G]§ 115.125 § 115.126(2) | § 115.126 § 115.126(2) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|--|---|--|--|---|
| | | | | Controls | | documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the Executive Director in accordance with §115.910 of this title if emission reduction are demonstrated to be substantially equivalent. | **See Alternative Requirement | | |
| H549VENTS | EP | R5121-03 | VOC | 30 TAC Chapter 115, Vent Gas Controls | § 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(B) § 60.18 | Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices). | [G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2) ** See CAM Summary | § 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2) | None |
| H549VENTS | EP | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.i § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) | For each Group 1 continuous process vent, the owner or operator must reduce emissions of total organic HAP by greater than or equal to 98 percent by weight by venting emissions through a closed-vent system to any combination of control devices (except flare). | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(4) § 63.2450(k)(4)(i) § 63.2450(k)(4)(ii) § 63.2450(k)(6) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b)(1) [G]§ 63.983(b)(2) | § 63.2450(k)(4)(i) § 63.2450(k)(4)(iii) § 63.2450(k)(6) § 63.2525(g) § 63.2525(h) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(2) § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) | § 63.2450(q) § 63.988(b)(1) § 63.997(c)(3) § 63.998(a)(2)(ii)(A) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|---|---|---|--|--|
| | | | | | § 63.988(a)(1) § 63.988(a)(2) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d) | | [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(2) § 63.996(b)(1) § 63.996(b)(1)(ii) § 63.996(d)(1) § 63.996(d)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) [G]§ 63.997(e)(2)(i)(A) § 63.997(e)(2)(ii) § 63.997(e)(2)(iv) § 63.997(e)(2)(iv)(A) [G]§ 63.997(e)(2)(iv)(B) § 63.997(e)(2)(iv)(C) § 63.997(e)(2)(iv)(D) § 63.997(e)(2)(iv)(F) § 63.997(e)(2)(iv)(G) [G]§ 63.997(e)(2)(iv)(H) **See Alternative Requirement | [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | |
| H549VENTS | EP | 63FFFF-02 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.i § 63.2450(b) | For each Group 1 continuous process vent, the owner or operator | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.2450(g) | § 63.2450(k)(4)(i) § 63.2450(k)(4)(iii) § 63.2450(k)(6) | § 63.2450(q) § 63.988(b)(1) § 63.997(c)(3) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|--|---|--|
| | | | | | § 63.2450(i)(1) § 63.2450(i)(2) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(c) § 63.982(c)(2) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.988(a)(1) § 63.988(a)(2) [G]§ 63.997(c)(1) § 63.997(c)(3) [G]§ 63.997(d) | must reduce emissions to an outlet process concentration less than or equal to 20 ppmv as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except flare). | § 63.2450(g)(1) § 63.2450(g)(2) [G]§ 63.2450(g)(3) § 63.2450(g)(4) § 63.2450(k)(4) § 63.2450(k)(4)(i) § 63.2450(k)(4)(ii) § 63.2450(k)(6) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.988(b)(1) § 63.988(c)(2) § 63.996(b)(1) § 63.996(b)(1)(ii) § 63.996(d)(1) § 63.996(d)(2) § 63.997(a) [G]§ 63.997(c)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(iii) [G]§ 63.997(d) § 63.997(e) § 63.997(e)(1)(i) [G]§ 63.997(e)(1)(iv) [G]§ 63.997(e)(1)(v) § 63.997(e)(2) § 63.997(e)(2)(i) § 63.997(e)(2)(i)(B) § 63.997(e)(2)(ii) § 63.997(e)(2)(iii) | § 63.2525(g) § 63.2525(h) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.988(b)(1) § 63.998(a)(2)(i) § 63.998(a)(2)(ii)(A) § 63.998(a)(2)(ii)(B)(2) § 63.998(a)(2)(ii)(B)(4) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(c)(1) § 63.998(c)(2)(iii) § 63.998(c)(3)(iii) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.998(a)(2)(ii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) [G]§ 63.999(a)(2) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|----------------|-------------|---------------------------------------|--|---|--|---|---|
| | | | | | | | § 63.997(e)(2)(iii)(A) [G]§ 63.997(e)(2)(iii)(B) [G]§ 63.997(e)(2)(iii)(C) [G]§ 63.997(e)(2)(iii)(D) [G]§ 63.997(e)(2)(iii)(E) **See Alternative Requirement | | |
| H549VENTS | EP | 63FFFF-03 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.11(b) § 63.2450(b) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) § 63.982(b) § 63.983(a)(1) § 63.983(a)(2) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | For each Group 1continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare. | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.987(c) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) § 63.987(c) § 63.998(a)(1)(ii) § 63.998(a)(1)(iii)(A) § 63.998(a)(1)(iii)(B) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.2450(f)(2)(ii) § 63.2450(q) § 63.997(b)(1) § 63.997(c)(3) § 63.998(a)(1)(iii)(A) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) § 63.999(c)(2)(iii) § 63.999(c)(3) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |
| H549VENTS | EP | 63FFFF-03-FFFF | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2455(a)-Table 1.1.a.ii § 63.2450(b) [G]§ 63.2450(e)(5) § 63.2455(a) § 63.2455(b) § 63.2455(b)(1) [G]§ 63.2535(m) [G]§ 63.670 § 63.983(a)(1) § 63.983(a)(2) | For each Group 1continuous process vent, the owner or operator must reduce emissions of total organic HAP by venting emissions through a closed vent system to a flare. | [G]§ 63.115(d)(2)(v) § 63.115(d)(3)(iii) [G]§ 63.671 § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(b)(1) [G]§ 63.983(b)(2) [G]§ 63.983(b)(3) [G]§ 63.983(b)(4) [G]§ 63.983(c)(1) | § 63.2450(f)(2) § 63.2450(f)(2)(i) § 63.2450(f)(2)(ii) [G]§ 63.2525(m) § 63.983(a)(3)(ii) § 63.983(b) [G]§ 63.983(d)(2) [G]§ 63.998(b)(1) [G]§ 63.998(b)(2) [G]§ 63.998(b)(3) [G]§ 63.998(b)(5) | § 63.2450(d)(3) § 63.2450(f)(2)(ii) § 63.2450(q) [G]§ 63.2520(e)(11) § 63.997(b)(1) § 63.997(c)(3) [G]§ 63.998(b)(3) [G]§ 63.999(a)(1) § 63.999(b)(5) § 63.999(c)(1) § 63.999(c)(2)(i) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|--|--|---|---|---|
| | | | | | § 63.983(a)(3) § 63.983(a)(3)(ii) § 63.983(d)(1) § 63.983(d)(1)(i) [G]§ 63.983(d)(2) § 63.983(d)(3) § 63.987(a) § 63.997(b)(1) § 63.997(c)(3) | | § 63.983(c)(2) § 63.983(c)(3) § 63.983(d)(1) § 63.983(d)(1)(ii) § 63.997(b) § 63.997(b)(1) § 63.997(c)(2) § 63.997(c)(3) § 63.997(c)(3)(i) § 63.997(c)(3)(ii) | [G]§ 63.998(d)(1) § 63.998(d)(3)(i) § 63.998(d)(3)(ii) § 63.998(d)(5) | § 63.999(c)(2)(iii) § 63.999(c)(6) [G]§ 63.999(c)(6)(i) § 63.999(c)(6)(iv) [G]§ 63.999(d)(1) [G]§ 63.999(d)(2) |
| LOAD | EU | R5211-01 | VOC | 30 TAC Chapter 115, Loading and Unloading of VOC | § 115.212(a)(1) § 115.212(a)(1)(A) § 115.212(a)(3)(A) § 115.212(a)(3)(A)(i) § 115.212(a)(3)(B) [G]§ 115.212(a)(3)(C) § 115.212(a)(3)(E) § 115.214(a)(1)(B) § 115.214(a)(1)(C) § 60.18 | At operations other than gasoline terminals, gasoline bulk plants, and marine terminals, vapors from loading VOC with a true vapor pressure of 0.5 psia or greater must be controlled by one of the methods specified in § 115.212(a)(1)(A)-(C). | § 115.212(a)(3)(B) § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.214(a)(1)(A)(ii) § 115.214(a)(1)(A)(iii) § 115.215 § 115.215(1) § 115.215(10) [G]§ 115.215(2) [G]§ 115.215(3) § 115.215(4) § 115.215(9) § 115.216(1) § 115.216(1)(B) | § 115.216 § 115.216(1) § 115.216(1)(B) § 115.216(2) § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(ii) § 115.216(3)(A)(iii) § 115.216(3)(B) | None |
| LOAD | EU | R5211-02 | VOC | 30 TAC Chapter 115, Loading and Unloading of VOC | § 115.217(a)(1) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i) | Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified. | § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4) | § 115.216 § 115.216(2) § 115.216(3)(B) | None |
| PROPE1796 | PRO | 60DDD-05 | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.560(g) | Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 | [G]§ 60.564(d) | § 60.565(a) § 60.565(a)(10) § 60.565(h) | § 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|---|---|-------------------------------------|--|--|
| | | | | | | % from facilities as specified, exempted from §60.562-1(a)(1). | | | |
| PROPE1796 | PRO | 60DDD-06 | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.560(g) | Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 % from facilities as specified, exempted from §60.562-1(a)(1). | [G]§ 60.564(d) | § 60.565(a) § 60.565(a)(10) § 60.565(h) | § 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7) |
| PROPE1796 | PRO | 60DDD-07 | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.560(h) | Emergency vent streams, as defined in §60.561, from a new, modified, or reconstructed polypropylene or polyethylene affected facility are exempt from the requirements of §60.562-1(a)(2). | None | None | None |
| PROPE1796 | PRO | 60DDD-08 | VOC/TOC | 40 CFR Part 60, Subpart DDD | § 60.560(g) | Vent streams emitting continuous emissions with uncontrolled annual emissions of < 1.6 Mg/yr (1.76 Tons/yr) or with weight % TOC of < 0.10 % from facilities as specified, exempted from §60.562-1(a)(1). | [G]§ 60.564(d) | § 60.565(a) § 60.565(a)(10) § 60.565(h) | § 60.565(a) § 60.565(a)(10) § 60.565(k) § 60.565(k)(6) § 60.565(k)(7) |
| PROPE1796 | EU | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2440(a) § 63.2450(a) § 63.2450(l) | This subpart applies to each miscellaneous organic chemical manufacturing affected source. | § 63.2445(d) | § 63.2525 § 63.2525(a) [G]§ 63.2525(b) § 63.2525(c) § 63.2525(f) § 63.2525(j) | § 63.2435(d) § 63.2445(c) § 63.2450(g)(5) § 63.2450(m) § 63.2450(m)(1) § 63.2450(m)(2) § 63.2515(a) § 63.2515(b)(1) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|---|--|--|---|---|
| | | | | | | | | | § 63.2515(c) § 63.2520(a) [G]§ 63.2520(b) [G]§ 63.2520(c) [G]§ 63.2520(d) § 63.2520(e) § 63.2520(e)(1) [G]§ 63.2520(e)(10) § 63.2520(e)(2) § 63.2520(e)(3) § 63.2520(e)(4) § 63.2520(e)(5) § 63.2520(e)(5)(i) [G]§ 63.2520(e)(5)(ii) [G]§ 63.2520(e)(5)(iii) § 63.2520(e)(6) § 63.2520(e)(7) § 63.2520(e)(9) |
| TK-561 | EU | R5112-01 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A) | No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | § 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117 | § 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7) | § 115.114(a)(1)(B) |
| TK-561 | EU | 63FFFF-1 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2470(a)-Table 4.1.b.i § 63.1062(a) | For each Group 1 storage tank for which the maximum true vapor | § 63.1063(c)(1) [G]§ 63.1063(c)(1)(i) [G]§ 63.1063(d)(1) | § 63.1063(e)(2) § 63.1065 § 63.1065(a) | [G]§ 63.1066(a) § 63.1066(b)(1) § 63.1066(b)(2) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-------------|---------------------------------------|--|--|---|---|--|
| | | | | | § 63.1062(a)(1) § 63.1063(a)(1)(i) § 63.1063(a)(1)(i)(B) § 63.1063(a)(2)(i) § 63.1063(a)(2)(iii) § 63.1063(a)(2)(iv) § 63.1063(a)(2)(ix) § 63.1063(a)(2)(v) § 63.1063(a)(2)(vi) § 63.1063(a)(2)(vii) § 63.1063(b)(1) § 63.1063(b)(2) § 63.1063(b)(3) § 63.1063(b)(4) § 63.1063(b)(5) § 63.1063(e)(1) § 63.1063(e)(2) § 63.2470(a) | pressure of total HAP at the storage temperature is < 76.6 kilopascals, you must comply with the requirements of Subpart WW of this part, except as specified in §63.2470. | § 63.1063(d)(2) | [G]§ 63.1065(b)(1) § 63.1065(c) § 63.1065(d) | § 63.1066(b)(4) § 63.2450(q) |
| TK-760 | EU | R5112-01 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.112(e)(1) § 115.112(e)(2) § 115.112(e)(2)(A) § 115.112(e)(2)(B) § 115.112(e)(2)(C) § 115.112(e)(2)(D) § 115.112(e)(2)(F) [G]§ 115.112(e)(2)(I) § 115.114(a)(1)(A) | No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | § 115.114(a)(1) § 115.114(a)(1)(A) [G]§ 115.117 | § 115.118(a)(3) § 115.118(a)(5) § 115.118(a)(6)(C) § 115.118(a)(7) | § 115.114(a)(1)(B) |
| TK-760 | EU | 63FFFF-01 | 112(B) HAPS | 40 CFR Part 63, Subpart FFFF | § 63.2470(a)-Table 4.1.b.i | For each Group 1 storage tank for which the | § 63.1063(c)(1) [G]§ 63.1063(c)(1)(i) | § 63.1063(e)(2) § 63.1065 | [G]§ 63.1066(a) § 63.1066(b)(1) |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|--|---|---|--|--|--|
| | | | | | § 63.1062(a) § 63.1062(a)(1) § 63.1063(a)(1)(i) § 63.1063(a)(1)(i)(A) § 63.1063(a)(2)(i) § 63.1063(a)(2)(ii) § 63.1063(a)(2)(iii) § 63.1063(a)(2)(iv) § 63.1063(a)(2)(ix) § 63.1063(a)(2)(v) § 63.1063(a)(2)(vi) § 63.1063(a)(2)(vii) § 63.1063(b)(1) § 63.1063(b)(2) § 63.1063(b)(3) § 63.1063(b)(4) § 63.1063(b)(5) § 63.1063(e)(1) § 63.1063(e)(2) § 63.2470(a) | maximum true vapor pressure of total HAP at the storage temperature is < 76.6 kilopascals, you must comply with the requirements of Subpart WW of this part, except as specified in §63.2470. | [G]§ 63.1063(d)(1) § 63.1063(d)(2) | § 63.1065(a) [G]§ 63.1065(b)(1) § 63.1065(c) § 63.1065(d) | § 63.1066(b)(2) § 63.1066(b)(4) § 63.2450(q) |
| UNLOAD | EU | R5211-01 | VOC | 30 TAC Chapter 115, Loading and Unloading of VOC | § 115.212(a)(3) § 115.212(a)(2) § 115.212(a)(3)(A) § 115.212(a)(3)(A)(i) § 115.212(a)(3)(B) [G]§ 115.212(a)(3)(C) § 115.212(a)(3)(D) § 115.214(a)(1)(B) § 115.214(a)(1)(C) | All land-based VOC transfer to or from transport vessels shall be conducted in the manner specified for leak-free operations. | § 115.212(a)(3)(B) § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.214(a)(1)(A)(ii) § 115.214(a)(1)(A)(iii) | § 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(iii) | None |
| UNLOAD | EU | R5211-02 | VOC | 30 TAC Chapter 115, Loading and Unloading of VOC | § 115.217(a)(1) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i) | Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified. | § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4) | § 115.216 § 115.216(2) § 115.216(3)(B) | None |
| VE-025-0 | EU | R5112- | VOC | 30 TAC Chapter | § 115.112(e)(1) | No person shall place, | [G]§ 115.117 | § 115.118(a)(5) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|--|--|--|
| | | 01 | | 115, Storage of VOCs | | store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | ** See Periodic Monitoring Summary | § 115.118(a)(7) | |
| VE-026-0 | EU | R5112-01 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.112(e)(1) | No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | [G]§ 115.117 ** See Periodic Monitoring Summary | § 115.118(a)(5) § 115.118(a)(7) | None |
| VE-041-0 | EU | R5112-01 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.112(e)(1) | No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of | [G]§ 115.117 ** See Periodic Monitoring Summary | § 115.118(a)(5) § 115.118(a)(7) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|--|---|--|
| | | | | | | maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | | | |
| VE-042-0 | EU | R5111 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.111(a)(1) | Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division. | [G]§ 115.117 | § 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7) | None |
| VE-043-0 | EU | R5111 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.111(a)(1) | Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division. | [G]§ 115.117 | § 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7) | None |
| VE-763 | EU | R5112-01 | VOC | 30 TAC Chapter 115, Storage of VOCs | § 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(C) § 60.18 | No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements | § 115.115(a) § 115.115(a)(6) § 115.116(a)(2) [G]§ 115.117 | § 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7) | None |

Applicable Requirements Summary

| Unit Group Process ID No. | Unit Group Process Type | SOP Index No. | Pollutant | State Rule or Federal Regulation Name | Emission Limitation, Standard or Equipment Specification Citation | Textual Description (See Special Term and Condition 1.B.) | Monitoring And Testing Requirements | Recordkeeping Requirements (30 TAC § 122.144) | Reporting Requirements (30 TAC § 122.145) |
|---------------------------|-------------------------|---------------|-----------|---------------------------------------|---|--|---|--|---|
| | | | | | | specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate. | | | |
| VE-763 | EU | 60Kb-01 | VOC | 40 CFR Part 60, Subpart Kb | § 60.112b(b)(1) [G]§ 60.112b(a)(3) § 60.18 | Storage vessels specified in §60.112b(b) and equipped with a closed vent system and control device are to meet the specifications in §60.112b(a)(3). | § 60.113b(d) § 60.116b(a) § 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) [G]§ 60.485(b) ** See Periodic Monitoring Summary | § 60.115b § 60.115b(d)(2) § 60.116b(a) § 60.116b(b) | § 60.115b § 60.115b(d)(1) § 60.115b(d)(3) |

Additional Monitoring Requirements

| | |
|--|-----------|
| Compliance Assurance Monitoring Summary | 86 |
| Periodic Monitoring Summary | 88 |

CAM Summary

| Unit/Group/Process Information | |
|--|--------------------------------|
| ID No.: FS541VENTS | |
| Control Device ID No.: FS-541 | Control Device Type: Flare |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Vent Gas Controls | SOP Index No.: R5121-01 |
| Pollutant: VOC | Main Standard: § 115.122(a)(1) |
| Monitoring Information | |
| Indicator: Pilot Flame | |
| Minimum Frequency: Continuously | |
| Averaging Period: N/A | |
| <p>Deviation Limit: Absence of pilot flame. If all monitoring devices indicate absence of pilot flame, it should be confirmed visually. Visual indication may be by line of sight or camera feed in the control room. If pilot flame is absent, as indicated by both monitoring devices and visual indication, it shall be considered a deviation.</p> | |
| <p>CAM Text: Each monitoring device shall be accurate to within manufacturer's recommendations. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or other written procedures that provide an adequate assurance that the device is calibrated accurately.</p> <p>Monitor the presence of a flare pilot flame using a thermocouple or other equivalent device to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame.</p> <p>Hourly records of whether the pilot flame monitors are continuously operated must be maintained. Records of events when pilot flame is absent, and duration of events must also be maintained. Maintain records of events when pilot flame is absent and duration of events.</p> | |

CAM Summary

| Unit/Group/Process Information | |
|---|--------------------------------|
| ID No.: H549VENTS | |
| Control Device ID No.: FS-541 | Control Device Type: Flare |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Vent Gas Controls | SOP Index No.: R5121-03 |
| Pollutant: VOC | Main Standard: § 115.122(a)(1) |
| Monitoring Information | |
| Indicator: Pilot Flame | |
| Minimum Frequency: Continuously | |
| Averaging Period: N/A | |
| <p>Deviation Limit: Absence of pilot flame. If all monitoring devices indicate absence of pilot flame, it should be confirmed visually. Visual indication may be by line of sight or camera feed in the control room. If pilot flame is absent, as indicated by both monitoring devices and visual indication, it shall be considered a deviation.</p> <p>CAM Text: Each monitoring device shall be accurate to within manufacturer's recommendations. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or other written procedures that provide an adequate assurance that the device is calibrated accurately.</p> <p>Monitor the presence of a flare pilot flame using a thermocouple or other equivalent device to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame.</p> <p>Hourly records of whether the pilot flame monitors are continuously operated must be maintained. Records of events when pilot flame is absent, and duration of events must also be maintained. Maintain records of events when pilot flame is absent and duration of events.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|--|--------------------------------|
| ID No.: VE-025-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Liquid Level | |
| Minimum Frequency: At the end of each unloading operation | |
| Averaging Period: N/A | |
| Deviation Limit: Liquid level falls below level of submerged fill pipe | |
| <p>Periodic Monitoring Text: Regardless of the location of the fill pipe, the fill pipe must be submerged at all times. Establish the volume of liquid at the depth of the highest point of the fill pipe. Record the volume of liquid loaded and unloaded so that the storage vessel liquid volume is known. It shall be considered and reported as a deviation anytime the liquid volume falls below the liquid volume at the fill pipe.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|---|--------------------------------|
| ID No.: VE-025-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Structural Integrity of the Pipe | |
| Minimum Frequency: Emptied and degassed | |
| Averaging Period: N/A | |
| Deviation Limit: If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled | |
| <p>Periodic Monitoring Text: Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|--|--------------------------------|
| ID No.: VE-026-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Liquid Level | |
| Minimum Frequency: At the end of each unloading operation | |
| Averaging Period: N/A | |
| Deviation Limit: Liquid level falls below the level of the submerged fill pipe | |
| <p>Periodic Monitoring Text: Regardless of the location of the fill pipe, the fill pipe must be submerged at all times. Establish the volume of liquid at the depth of the highest point of the fill pipe. Record the volume of liquid loaded and unloaded so that the storage vessel liquid volume is known. It shall be considered and reported as a deviation anytime the liquid volume falls below the liquid volume at the fill pipe.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|---|--------------------------------|
| ID No.: VE-026-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Structural Integrity of the Pipe | |
| Minimum Frequency: Emptied and degassed | |
| Averaging Period: N/A | |
| Deviation Limit: If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled | |
| <p>Periodic Monitoring Text: Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|--|--------------------------------|
| ID No.: VE-041-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Record of Tank Construction Specifications | |
| Minimum Frequency: N/A | |
| Averaging Period: N/A | |
| <p>Deviation Limit: Keep a record of tank construction specs that show a fill pipe that extends from the top of a tank to have a max clearance of 6 inches from the bottom or, when the tank is loaded from the side, a discharge opening entirely submerged when the pipe used to withdraw liquid from the tank can no longer withdraw liquid in normal operation.</p> | |
| <p>Periodic Monitoring Text: Keep a record of tank construction specifications (e.g. engineering drawings) that show a fill pipe that extends from the top of a tank to have a maximum clearance of six inches (15.2 centimeters) from the bottom or, when the tank is loaded from the side, a discharge opening entirely submerged when the pipe used to withdraw liquid from the tank can no longer withdraw liquid in normal operation.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|---|--------------------------------|
| ID No.: VE-041-0 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 30 TAC Chapter 115, Storage of VOCs | SOP Index No.: R5112-01 |
| Pollutant: VOC | Main Standard: § 115.112(e)(1) |
| Monitoring Information | |
| Indicator: Structural Integrity of the Pipe | |
| Minimum Frequency: Emptied and degassed | |
| Averaging Period: N/A | |
| <p>Deviation Limit: Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed to ensure that it continues to meet the specifications in the above requirement. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.</p> | |
| <p>Periodic Monitoring Text: Inspect to determine the structural integrity of the fill pipe and record each time the storage vessel is emptied and degassed to ensure that it continues to meet the specifications in the above requirement. If the structural integrity of the fill pipe is in question, repairs shall be made before the storage vessel is refilled. It shall be considered and reported as a deviation if the repairs are not completed prior to refilling the storage vessel.</p> | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|--|--------------------------------|
| ID No.: VE-763 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart Kb | SOP Index No.: 60Kb-01 |
| Pollutant: VOC | Main Standard: § 60.112b(b)(1) |
| Monitoring Information | |
| Indicator: VOC Concentration | |
| Minimum Frequency: Once per year | |
| Averaging Period: N/A | |
| Deviation Limit: Leaks shall be indicated by an instrument reading greater than or equal to 500 parts per million by volume (ppmv) less background. If a leak is indicated and the repair timing, follow up monitoring, and/or DTM or UTM provisions specified in §60.482-10(g) - (l) are not met, a deviation has occurred. | |
| Periodic Monitoring Text: Measure and record fugitive emissions from the vapor collection system in accordance with part 60, appendix A, method 21. | |

Periodic Monitoring Summary

| Unit/Group/Process Information | |
|---|--------------------------------|
| ID No.: VE-763 | |
| Control Device ID No.: N/A | Control Device Type: N/A |
| Applicable Regulatory Requirement | |
| Name: 40 CFR Part 60, Subpart Kb | SOP Index No.: 60Kb-01 |
| Pollutant: VOC | Main Standard: § 60.112b(b)(1) |
| Monitoring Information | |
| Indicator: Visual Inspection | |
| Minimum Frequency: Once per year | |
| Averaging Period: N/A | |
| Deviation Limit: Visual indication of air emissions/leaks shall be confirmed by an instrument reading greater than or equal to 500 parts per million by volume (ppmv) less background. If a leak is indicated and the repair timing, follow up monitoring, and/or DTM or UTM provisions specified in §60.482-10(g) - (l) are not met, a deviation has occurred. | |
| Periodic Monitoring Text: Visually inspect all components of the vapor collection system for defects, such as cracks, holes, gaps, loose connections, or broken or missing covers or other closure devices, that could result in air emissions. | |

Permit Shield

Permit Shield 97

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit / Group / Process ID No. | Group / Inclusive Units | Regulation | Basis of Determination |
|-------------------------------|--|---------------------------------------|--|
| 1796-08N | N/A | 30 TAC Chapter 115, Vent Gas Controls | The source does not emit VOC. |
| 1796-08O | N/A | 30 TAC Chapter 115, Vent Gas Controls | The source does not emit VOC. |
| E-531 | N/A | 40 CFR Part 63, Subpart FFFF | The heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kPa (5 psi) |
| E-531 | N/A | 40 CFR Part 63, Subpart Q | Cooling tower does not use any chromium-based water treatment chemicals |
| GRPFINISH | 1796-08P, 1796-09A, 1796-09B, 1796-09C, 1796-09D, 1796-09E, 1796-09F, 1796-09G, 1796-09H, BL-831-1, BL-831-2, VE-804-1, VE-804-2, VE-806-1, VE-806-2, VE-807-1, VE-807-2, VE-841-1, VE-841-2, VE-842-1, VE-842-2, VE-843-1, VE-843-2, VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0, VE-880-0, VE-881-0, VE-882-0, VE-883-0 | 40 CFR Part 63, Subpart FFFF | The gas stream does not contain greater than 0.005 weight percent total HAP, and therefore do not meet the definition of continuous process vents. |
| GRPHCL | 1796-08A, 1796-08B, 1796-08C, 1796-08D, 1796-08M, BL-442-1, BL-442-2 | 40 CFR Part 63, Subpart FFFF | The gas stream does not contain greater than 0.005 weight percent total HAP, and therefore do not meet the definition of continuous process vents. |
| H-549 | N/A | 30 TAC Chapter 117, Subchapter B | Incinerator with a heating capacity less than 40MMBTU/hr. |
| H-549 | N/A | 40 CFR Part 63, Subpart DDDDD | Not a boiler or process heater as defined in § 63.7490(a)(1). |
| PROPE1796 | N/A | 40 CFR Part 60, Subpart DDD | The source is subject to both MACT FFFF, and NSPS DDD. Elect to comply with MACT FFFF |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit / Group / Process ID No. | Group / Inclusive Units | Regulation | Basis of Determination |
|-------------------------------|-------------------------|----------------------------|---|
| | | | for sources within the process unit that are subject to control under both regulations. |
| TK-561 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| TK-561 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |
| TK-561 | N/A | 40 CFR Part 60, Subpart Kb | Volume < 19,800 gallons |
| TK-760 | N/A | 40 CFR Part 60, Subpart Kb | Vessel complies only with the requirements for Group 1 storage tanks in 40 CFR Part 63, Subpart FFFF. |
| VE-025-0 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-025-0 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |
| VE-025-0 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-026-0 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-026-0 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |
| VE-026-0 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-041-0 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-041-0 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |
| VE-041-0 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-042-0 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-042-0 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |
| VE-042-0 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-043-0 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-043-0 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 40,000 gallons |

Permit Shield

The Executive Director of the TCEQ has determined that the permit holder is not required to comply with the specific regulation(s) identified for each emission unit, group, or process in this table.

| Unit / Group / Process ID No. | Group / Inclusive Units | Regulation | Basis of Determination |
|-------------------------------|-------------------------|-------------------------------------|--|
| VE-043-0 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-752 | N/A | 30 TAC Chapter 115, Storage of VOCs | Capacity is less than 1000 gallons. |
| VE-752 | N/A | 40 CFR Part 60, Subpart K | Capacity < 40,000 gallons |
| VE-752 | N/A | 40 CFR Part 60, Subpart Ka | Capacity < 10,000 gallons |
| VE-752 | N/A | 40 CFR Part 60, Subpart Kb | Capacity < 19,800 gallons |
| VE-763 | N/A | 40 CFR Part 60, Subpart K | Pressure vessel designed to operate in excess of 204.9kPa and without emissions to the atmosphere. |
| VE-763 | N/A | 40 CFR Part 60, Subpart Ka | Pressure vessel designed to operate in excess of 204.9kPa and without emissions to the atmosphere. |
| VE-763 | N/A | 40 CFR Part 60, Subpart Kb | Pressure vessel designed to operate in excess of 204.9kPa and without emissions to the atmosphere. |

New Source Review Authorization References

| | |
|--|------------|
| New Source Review Authorization References | 101 |
| New Source Review Authorization References by Emission Unit | 102 |

New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Nonattainment (NA) Permits | |
|---|------------------------------|
| NA Permit No.: N224 | Issuance Date: 09/28/2023 |
| NA Permit No.: N296 | Issuance Date: 01/12/2024 |
| Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area. | |
| Authorization No.: 19027 | Issuance Date: 01/12/2024 |
| Authorization No.: 83791 | Issuance Date: 09/28/2023 |
| Authorization No.: 135086 | Issuance Date: 09/28/2023 |
| Permits By Rule (30 TAC Chapter 106) for the Application Area | |
| Number: 106.122 | Version No./Date: 09/04/2000 |
| Number: 106.261 | Version No./Date: 11/01/2003 |
| Number: 106.262 | Version No./Date: 11/01/2003 |
| Number: 106.263 | Version No./Date: 11/01/2001 |
| Number: 106.393 | Version No./Date: 09/04/2000 |
| Number: 106.472 | Version No./Date: 09/04/2000 |
| Number: 106.473 | Version No./Date: 09/04/2000 |
| Number: 106.492 | Version No./Date: 09/04/2000 |
| Number: 106.511 | Version No./Date: 09/04/2000 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization** |
|---------------------------|--------------------------------|---|
| 1796-08A | FI-802-1 FILTER VENT | 19027, N296, 106.261/11/01/2003 [152516], 106.262/11/01/2003 [152516] |
| 1796-08B | FI-802-2 FILTER VENT | 19027, N296, 106.261/11/01/2003, 106.262/11/01/2003 |
| 1796-08C | FI801-1 FILTER VENT | 19027, N296, 106.261/11/01/2003, 106.262/11/01/2003 |
| 1796-08D | FI-801-2 FILTER VENT | 19027, N296, 106.261/11/01/2003, 106.262/11/01/2003 |
| 1796-08M | FI-802-0 FILTER VENT | 19027, N296, 106.261/11/01/2003, 106.262/11/01/2003 |
| 1796-08N | FI-814/5/6/7/8-1 FILTER VENT | 19027, N296 |
| 1796-08O | FI-814/5/6/7/8-2 FILTER VENT | 19027, N296 |
| 1796-08P | FI-891-1 FILTER VENT | 19027, N296 |
| 1796-09A | FI-880-0 | 19027, N296 |
| 1796-09B | FI-863-0 | 19027, N296 |
| 1796-09C | FI-873-0 FILTER VENT | 19027, N296 |
| 1796-09D | FI-884-0 | 19027, N296 |
| 1796-09E | FI-867-0 FILTER VENT | 19027, N296 |
| 1796-09F | FI-709-1 FILTER VENT | 19027, N296 |
| 1796-09G | FI-709-2 FILTER VENT | 19027, N296 |
| 1796-09H | FI-721-0 FILTER VENT | 19027, N296 |
| 1796-09J | FI-895-0 FILTER VENT | 19027, N296 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization** |
|---------------------------|-------------------------------------|---|
| 1796-12A | PROCESS FUGITIVES | 19027, N296, 106.261/11/01/2003 [110925, 118637, 156170, 131970, 139753, 152516, 157396], 106.262/11/01/2003 [110925, 118637, 156170, 131970, 139753, 152516, 157396] |
| BL-442-1 | BL-442-1 | 19027, N296 |
| BL-442-2 | BL-442-2 | 19027, N296 |
| BL-831-1 | PELLET DRYER BLOWER VENT | 19027, N296 |
| BL-831-2 | PELLET DRYER BLOWER VENT | 19027, N296 |
| E-531 | COOLING TOWER | 19027, N296 |
| EMG-591A | ENGINE GENERATOR | 106.511/09/04/2000 |
| FS-541 | FLARE | 19027, 135086, N224, N296, 106.492/09/04/2000 |
| FS541VENTS | VENT HEADER TO FLARE FS-541 | 19027, N296, 106.261/11/01/2003 [152516], 106.262/11/01/2003 [152516] |
| G-544 | API OIL/WATER SPEARATOR | 19027, N296 |
| H-549 | CATALYTIC INCINERATOR, H-549 | 19027, N296 |
| H-550XVENTS | TERTIARY DEGREASER VENTS TO CONTROL | 19027, N296 |
| H549VENTS | VENT HEADER H-549 | 19027, N296, 106.261/11/01/2003 [152516], 106.262/11/01/2003 [152516] |
| LOAD | LOADING | 19027, N296, 106.472/09/04/2000, 106.473/09/04/2000 |
| PROPE1796 | POLYETHYLENE PROCESS | 19027, N296 |
| TK-561 | SLOP OIL STORAGE TANK | 19027, N296 |
| TK-760 | HEXANE STORAGE TANK | 19027, N296 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization** |
|---------------------------|--------------------------------|---|
| UNLOAD | UNLOADING | 19027, N296, 106.472/09/04/2000, 106.473/09/04/2000 |
| VE-025-0 | REACTANT 12 STORAGE VESSEL | 19027, N296 |
| VE-026-0 | CO-CATALYST STORAGE VESSEL | 19027, N296 |
| VE-041-0 | REACTANT 17 STORAGE VESSEL | 19027, N296 |
| VE-042-0 | REACTANT 14 STORAGE VESSEL | 19027, N296 |
| VE-043-0 | REACTANT 15 STORAGE VESSEL | 19027, N296 |
| VE-752 | DIESEL TANK FOR EMG-591A | 19027, N296 |
| VE-763 | PRESSURIZED VESSEL VE-763 | 19027, N296 |
| VE-804-1 | SILO VENT | 19027, N296 |
| VE-804-2 | SILO VENT | 19027, N296 |
| VE-806-1 | SILO VENT | 19027, N296 |
| VE-806-2 | SILO VENT | 19027, N296 |
| VE-807-1 | SILO VENT | 19027, N296 |
| VE-807-2 | SILO VENT | 19027, N296 |
| VE-841-1 | FILTER VENT | 19027, N296 |
| VE-841-2 | FILTER VENT | 19027, N296 |
| VE-842-1 | SILO VENT | 19027, N296 |
| VE-842-2 | SILO VENT | 19027, N296 |
| VE-843-1 | SILO VENT | 19027, N296 |
| VE-843-2 | SILO VENT | 19027, N296 |

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations for emission units listed elsewhere in this operating permit. The NSR authorizations are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

| Unit/Group/Process ID No. | Emission Unit Name/Description | New Source Review Authorization** |
|---------------------------|--------------------------------|-----------------------------------|
| VE-861-0 | SILO VENT | 19027, N296 |
| VE-862-0 | SILO VENT | 19027, N296 |
| VE-863-0 | SILO VENT | 19027, N296 |
| VE-864-0 | SILO VENT | 19027, N296 |
| VE-865-0 | SILO VENT | 19027, N296 |
| VE-866-0 | SILO VENT | 19027, N296 |
| VE-867-0 | SILO VENT | 19027, N296 |
| VE-868-0 | SILO VENT | 19027, N296 |
| VE-869-0 | SILO VENT | 19027, N296 |
| VE-870-0 | SILO VENT | 19027, N296 |
| VE-871-0 | SILO VENT | 19027, N296 |
| VE-872-0 | SILO VENT | 19027, N296 |
| VE-873-0 | SILO VENT | 19027, N296 |
| VE-874-0 | SILO VENT | 19027, N296 |
| VE-880-0 | SILO VENT | 19027, N296 |
| VE-881-0 | SILO VENT | 19027, N296 |
| VE-882-0 | SILO VENT | 19027, N296 |
| VE-883-0 | SILO VENT | 19027, N296 |

**This column may include Permit by Rule (PBR) numbers and version dates, PBR Registration numbers in brackets, Standard Permit Registration numbers, Minor NSR permit numbers, and Major NSR permit numbers.

Alternative Requirement

Alternative Requirement..... 107

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Protecting Texas by Reducing and Preventing Pollution

February 7, 2012

MR. JEROME A. JARBOE P.E.
ENVIRONMENTAL SUPERVISOR
CHEVRON PHILLIPS CHEMICAL COMPANY LLC
9500 I-10 EAST
BAYTOWN, TEXAS 77521-9570

Re: Approval of Alternate Monitoring Method for Title 40 Code of Federal Regulations (40 CFR) Part 63, Subparts SS and FFFF for the Cedar Bayou Plant Polyethylene Unit 1796, H-549 Catalytic Incinerator
Regulated Entity Number: RN103919817
Customer Reference Number: CN600303614

Dear Mr. Jarboe:

In response to your letter request to Ms. Beryl E. Thatcher, dated November 16, 2011 and supplemental information provided to Mr. Jeff Greif by e-mail from Ms. Beth Aitkens on December 16, 2011 and January 3, 2012, the alternate monitoring method of the Cedar Bayou plant Polyethylene Unit 1796, H-549 catalytic incinerator is approved. The catalytic incinerator represented to control emissions from two Tertiary Degassers, SE-435-1 & 2, in the Polyethylene unit that Chevron Phillips designated as Group 1, subject to 40 CFR Part 63, Subpart FFFF and thus subject to monitoring in Subpart SS at 63.988(c)(2). Specifically, the TCEQ finds that monitoring the destruction removal efficiency (DRE) or outlet concentration of volatile organic compounds (VOC) as represented in lieu of monitoring the inlet and outlet temperature of catalytic incinerator or inlet temperature and catalyst activity analysis is an acceptable alternate monitoring method approach.

Per Chevron Phillip's representation, the VOC concentration measured at the inlet and the outlet of the catalytic incinerator with a gas chromatograph (GC) is appropriately equivalent and directly related to the federal regulation standard associated with hazardous air pollutant (HAP) or total organic carbon (TOC). Then when coupled with the measurement of all relevant flows to the catalytic incinerator for the inlet flow, plus the fuel flow measurement mechanically linked to the combustion air flow in the incinerator for the outlet flow the mass of VOC in and out provides an appropriate VOC DRE, required to be at least 98%. The VOC concentration measured at the outlet with the GC allows an alternative standard check of the VOC outlet concentration, required to be equal to or less than 20 parts per million by volume (ppmv). The GC and flow shall produce results as represented on a continuous basis every 15 minutes and be reduced to a daily average of either VOC DRE or outlet concentration. The system monitors shall be maintained and calibrated as specified by manufactures and the GC and system.

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

How is our customer service? tceq.texas.gov/goto/customersurvey
printed on recycled paper

Mr. Jerome A. Jarboe P.E.

Page 2

February 7, 2012

Re: Approval of Alternate Monitoring Method

performance shall meet the requirements of the current New Source Review (NSR) permit for the unit, 19027, Special Condition 15, with the exception that the GC will meet the Federal Performance Specification 9 in 40 CFR 60 Appendix B as represented.

All periods in which one of the monitoring methods noted above does not provide for a demonstration of compliance, excluding periods of start-up, shutdown or malfunction (SSM) shall be reported in the semiannual reports under Subpart FFFF and as deviations in Title V deviation reports. Records of monitoring results, calibration and maintenance shall be retained consistent with the requirements of the Federal Subparts.

The TCEQ is delegated at 40 CFR 63.99(a)(43) the implementation of Subpart FFFF and this monitoring was determined to be an intermediate change to the required monitoring which the permitting authority can approve in accordance with the delegation. Your attention to compliance with regulatory requirements is appreciated. If you have any questions with respect to this approval please contact Mr. Jeff Greif at (512)239-1534.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Sincerely,

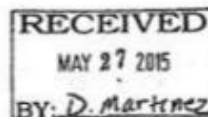


Michael Wilson, P.E., Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

MPW/JG/jg

cc: Mr. David Garcia, Air Toxics & Inspection Coordination Branch, EPA Region 6
Director, Environmental Public Health Division, Harris County Public Health and
Environmental Services, Pasadena
Air Section Manager, Region 12 - Houston

Bryan W. Shaw, Ph.D., P.E., Chairman
Toby Baker, Commissioner
Zak Covar, Commissioner
Richard A. Hyde, P.E., Executive Director



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Protecting Texas by Reducing and Preventing Pollution

May 14, 2015

91 7199 9991 7033 2765 9011

MR. JEROME A. JARBOE, P.E.
ENVIRONMENTAL SUPERVISOR
CHEVRON PHILLIPS CHEMICAL COMPANY LLC
9500 I-10 EAST
BAYTOWN, TEXAS 77521-9570

Re: Revision and Approval of Alternate Monitoring of Compliance (AMOC) Method
H-549 Catalytic Incinerator
Cedar Bayou Plant Polyethylene Unit 1796
Baytown, Harris County
Regulated Entity Number: 103919837
Customer Reference Number: 600303614
Affected Permits: 19027, O-3247

Dear Mr. Jarboe:

This correspondence is in response to your request dated February 10, 2014 and updates dated April 23, 2015 for revisions to the Alternate Monitoring of Compliance (AMOC) under 40 Code of Federal Regulations (40 CFR) Part 63, Subparts SS and FFFF as authorized February 7, 2012 and approval of the same AMOC method to comply with 30 Texas Administrative Code (30 TAC) Chapter 115, Subchapter B, Division 2, §115.126(1)(A)(ii). The AMOC revision requests the references to the fuel flow monitor system be changed from "mechanically linked" to "ratio controlled", which reflects a new fuel flow system to be installed in 2015. The letter also requested approval of the revised AMOC and all portions of the approved compliance methods to comply with 30 Texas Administrative Code (30 TAC) Chapter 115, Subchapter B, Division 2, §115.126(1)(A)(ii) regarding Monitoring and Recordkeeping requirements. The Texas Commission on Environmental Quality (TCEQ) Executive Director has made a final decision to approve your above-referenced change and request.

The H-549 catalytic incinerator controls emissions from two Tertiary Degassers, SE-435-1 and SE-435-2, in the Polyethylene Unit 1796. This correspondence authorizes Chevron Phillips to monitor the destruction removal efficiency (DRE) or outlet concentration of volatile organic compounds (VOC) as represented in lieu of monitoring the inlet and outlet temperature of the catalytic incinerator or inlet temperature and catalyst activity.

Chevron Phillips has represented that the VOC concentration measured at the inlet and the outlet of the catalytic incinerator with a gas chromatograph (GC) is appropriately equivalent. Specifically, when coupled with the measurement of all relevant flows to the catalytic incinerator for the inlet flow, plus the fuel flow measurement which is ratio controlled with the combustion air flow in the incinerator for the outlet flow, the mass of VOC in and out provides

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

How is our customer service? tceq.texas.gov/customersurvey
printed on recycled paper

Mr. Jarboe
Page 2
May 14, 2015

an appropriate VOC DRE, required to be at least 98%. The VOC concentration measured at the outlet with the GC allows an alternative standard check of the VOC outlet concentration, required to be equal to or less than 20 parts per million by volume (ppmv). The GC and flow shall produce results as represented on a continuous basis every 15 minutes and be reduced to a daily average, either VOC DRE or outlet concentration.

The system monitors shall be maintained and calibrated as specified by the manufacturers and the GC. System performance shall meet the requirements of Permit No. 19027, Special Condition 15, except that the GC will meet the Federal Performance Specification 9 in 40 CFR 60 Appendix B as represented.

All periods in which one of the monitoring methods noted above does not provide for a demonstration of compliance, excluding periods of start-up, shutdown, or malfunctions (SSM), shall be reported in the semiannual reports under 40 CFR Subpart FFFF, as required by 30 TAC §115.126, and as deviations in Title V deviation reports. Records of monitoring results, calibration, and maintenance shall be retained consistent with the requirements of the federal Subparts and state regulations.

These facilities have been designated as Group 1 and are subject to 40 CFR Part 63, Subpart FFFF and must follow the monitoring requirements in Subpart SS, 40 CFR §63.988(c)(2). As approved February 7, 2012 and in this correspondence, the AMOC methods represented are directly related to the federal regulation standard associated with the hazardous air pollutant or total organic carbon emissions. The TCEQ is delegated at 40 CFR §63.99(a)(43) the implementation of Subpart FFFF and this monitoring was determined to be an intermediate change to the required monitoring which the permitting authority can approve in accordance with the delegation.

Consistent with compliance with 40 CFR Subparts SS and FFFF, the executive director approves that the measurement of the VOC concentration at the inlet and the outlet of the catalytic incinerator with a GC is appropriately equivalent to 30 TAC §115.126(1)(A)(ii). The executive director is authorized to approve this AMOC method following 30 TAC §115.123(a)(1) since all applicable requirements of 30 TAC §115.910 have been met and non-relevant portions waived.

Please note that Chevron Phillips, and all parties copied on this correspondence, have an opportunity to appeal the TCEQ Executive Director's determination on the AMOC method for compliance with 30 TAC §115.126 to the Commission within 15 days from the date of receipt of this letter under 30 TAC § 115.914(7). Also, under 30 TAC § 115.914(8), the U.S. Environmental Protection Agency (EPA) has 45 days from the date of the TCEQ's final approval of the AMOC to inform us that it disapproves the AMOC. In such an event, the Executive Director of the TCEQ will void or revise the AMOC. If EPA approves it or takes no action within 45 days, the AMOC becomes part of the State Implementation Plan. The AMOC becomes effective upon the latter of: the acceptance of by the Commission (in the event of an appeal); or the acceptance of the U.S. EPA.

This action supersedes certain requirements in Permit(s) No. 19027. To ensure effective and consistent enforceability, we request that Chevron Phillips incorporate this action into the permit through an Alteration no later than 90 days after this approval.

Mr. Jarboe
Page 3
May 14, 2015

This action changes applicable requirements for the site, including existing monitoring requirements identified in the Site Operating Permit (SOP), O-3247. The TCEQ recommends submittal of a complete SOP Administrative Revision as soon as possible. Changes meeting the criteria for an administrative revision can be operated before issuance of the revision if a complete revision application is submitted to the TCEQ and this information is maintained with the SOP Permit records at the site.

This action is taken under authority delegated by the Executive Director of the TCEQ. If you have any questions, please call Anne Inman, P.E. at (512) 239-1276, or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,



Mike Wilson, P.E., Director
Air Permits Division
Texas Commission on Environmental Quality

cc:

Director, Environmental Public Health Division, Harris County Public Health and
Environmental Services, Pasadena
Mr. Mark Hansen, Acting Associate Director Air Programs, US EPA Region 6 (6PD-A)

Project No.: 228636

P.O. Box 13087 • Austin, Texas 78711-3087 • 512-239-1000 • tceq.texas.gov

How is our customer service? tceq.texas.gov/customersurvey
printed on recycled paper

Mr. Jarboe
Page 4
May 14, 2015

bcc: Andy Goodridge, Air Section Manager, Region 12 – Houston
Donna Huff, Manager, Air Quality Planning Section, Air Quality Division, OA: MC-206
Rebecca Partee, Manager, Chemical Section, Air Permits Division, OA: MC-163
Jesse Chacon, Manager, Operating Permits Section, Air Permits Division, OA: MC-163

Appendix A

Acronym List 114

Acronym List

The following abbreviations or acronyms may be used in this permit:

| | |
|------------------|---|
| ACFM | actual cubic feet per minute |
| AMOC | alternate means of control |
| ARP | Acid Rain Program |
| ASTM | American Society of Testing and Materials |
| B/PA | Beaumont/Port Arthur (nonattainment area) |
| CAM | Compliance Assurance Monitoring |
| CD | control device |
| CEMS | continuous emissions monitoring system |
| CFR | Code of Federal Regulations |
| COMS | continuous opacity monitoring system |
| CVS | closed vent system |
| D/FW | Dallas/Fort Worth (nonattainment area) |
| EP | emission point |
| EPA | U.S. Environmental Protection Agency |
| EU | emission unit |
| FCAA Amendments | Federal Clean Air Act Amendments |
| FOP | federal operating permit |
| gr/100 scf | grains per 100 standard cubic feet |
| HAP | hazardous air pollutant |
| H/G/B | Houston/Galveston/Brazoria (nonattainment area) |
| H ₂ S | hydrogen sulfide |
| ID No. | identification number |
| lb/hr | pound(s) per hour |
| MACT | Maximum Achievable Control Technology (40 CFR Part 63) |
| MMBtu/hr | Million British thermal units per hour |
| NA | nonattainment |
| N/A | not applicable |
| NADB | National Allowance Data Base |
| NESHAP | National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61) |
| NO _x | nitrogen oxides |
| NSPS | New Source Performance Standard (40 CFR Part 60) |
| NSR | New Source Review |
| ORIS | Office of Regulatory Information Systems |
| Pb | lead |
| PBR | Permit By Rule |
| PEMS | predictive emissions monitoring system |
| PM | particulate matter |
| ppmv | parts per million by volume |
| PRO | process unit |
| PSD | prevention of significant deterioration |
| psia | pounds per square inch absolute |
| SIP | state implementation plan |
| SO ₂ | sulfur dioxide |
| TCEQ | Texas Commission on Environmental Quality |
| TSP | total suspended particulate |
| TVP | true vapor pressure |
| U.S.C. | United States Code |
| VOC | volatile organic compound |

Appendix B

Major NSR Summary Table 116

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|---|----------------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| Air Contaminants Data Before Startup of Expanded Operations Controlled by RTO | | | | | | | |
| 1796-01A | Mineral Oil Scrubber | VOC | 0.70 | 0.26 | | | |
| 1796-01B | Mineral Oil Scrubber | VOC | 3.36 | 0.22 | | | |
| 1796-04A | Hexane Storage Tank | VOC | 0.19 | 0.27 | 3, 14 | 3, 14 | 3, 14 |
| 1796-04B | Recovered Oil Storage Tank | VOC | 0.32 | 0.32 | 14 | 14 | 14 |
| 1796-06G | Catalytic Incinerator | CO | 17.50 | 76.65 | 8, 27, 28, 29, 30, 31, 32, 33, 34 | 8, 25, 27, 28, 29, 30, 31, 32, 33, 34 | 8, 25, 27, 28, 29, 30, 31, 32, 33, 34 |
| | | NO _x | 1.09 | 4.77 | | | |
| | | PM | 0.14 | 0.63 | | | |
| | | PM ₁₀ | 0.14 | 0.63 | | | |
| | | PM _{2.5} | 0.14 | 0.63 | | | |
| | | VOC | 5.19 | 7.02 | | | |
| | | SO2 | 0.01 | 0.01 | | | |
| 1796-08A/B/M | Flake Bag Filter | VOC | 10.11 | - | 10 | 10 | 10 |
| 1796-08A | Flake Bag Filter | PM | 0.01 | 0.02 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM ₁₀ | 0.01 | 0.02 | | | |
| | | PM _{2.5} | 0.01 | 0.02 | | | |
| 1796-08B | Flake Bag Filter | PM | 0.01 | 0.02 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.02 | | | |
| | | PM _{2.5} | 0.01 | 0.02 | | | |
| 1796-08C/D | Flake Bag Filter | VOC | 6.80 | - | 10 | 10 | 10 |
| 1796-08A/B/C/D/M | Flake Bag Filter | HCl (7) | 0.23 | 0.90 | 10 | 10 | 10 |
| 1796-08C | Flake Bag Filter | PM | 0.01 | 0.02 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.02 | | | |
| | | PM _{2.5} | 0.01 | 0.02 | | | |
| 1796-08D | Flake Bag Filter | PM | 0.01 | 0.02 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.02 | | | |
| | | PM _{2.5} | 0.01 | 0.02 | | | |
| 1796-08M | Flake Bag Filter | PM | 0.01 | 0.02 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|--|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM ₁₀ | 0.01 | 0.02 | | | |
| | | PM _{2.5} | 0.01 | 0.02 | | | |
| 1796-19A/B | Rotary Airlock Vent Filter | VOC | 6.80 | - | 10 | 10 | 10 |
| | | HCl | 0.02 | 0.06 | | | |
| 1796-19A | Rotary Airlock Vent Filter | PM | 0.06 | 0.28 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.06 | 0.28 | | | |
| | | PM _{2.5} | 0.06 | 0.28 | | | |
| 1796-19B | Rotary Airlock Vent Filter | PM | 0.06 | 0.28 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.06 | 0.28 | | | |
| | | PM _{2.5} | 0.06 | 0.28 | | | |
| 1796-CAP | Flake Emission Cap Includes EPNs: 1796-08A, 1796-08B, 1796-08C, 1796-08D, and 1796-08M, and 1796-19A and 1796-19B | VOC | - | 32.58 | 3, 4, 6, 10, 19, 20 | 3, 4, 6, 10, 19, 20 | 3, 4, 6, 10, 19, 20 |
| 1796-08N | Flake Bag Filter | PM | 0.53 | 0.65 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|------------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM ₁₀ | 0.53 | 0.65 | | | |
| | | PM _{2.5} | 0.53 | 0.65 | | | |
| 1796-08O | Flake Bag Filter | PM | 0.53 | 0.79 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.53 | 0.79 | | | |
| | | PM _{2.5} | 0.53 | 0.79 | | | |
| 1796-08P | Flake Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09A/I | Masterbatch Bag Filter | VOC | 0.25 | - | 10 | 10 | 10 |
| 1796-09A | Masterbatch Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09B/C | Pellet Bag Filter | VOC | 6.88 | - | 10, 19 | 10, 19 | 10, 19 |
| 1796-09B | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|-------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09C | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09D/E/F/G/H | Pellet Bag Filter | VOC | 6.88 | | 10, 19 | 10, 19 | 10, 19 |
| 1796-09D | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09E | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09F | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|--------------------------------|--------------------------|----------------|---------|--|--|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09G | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09H | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-10A | Flare FS-541 Routine Operation | CO | 35.72 | - | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NO _x | 6.88 | - | | | |
| | | VOC | 27.22 | - | | | |
| | | SO ₂ | 0.18 | - | | | |
| 1796-10A | Flare FS-541 MSS | CO | 304.41 | - | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NO _x | 59.09 | - | | | |
| | | VOC | 250.97 | - | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|---|--------------------------|----------------|---------|--|--|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | SO ₂ | 0.33 | - | | | |
| 1796-10A | Flare FS-541 Routine and MSS Annual Emission Cap | CO | - | 67.29 | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NO _x | - | 12.57 | | | |
| | | VOC | - | 37.04 | | | |
| | | SO ₂ | - | 0.29 | | | |
| 1796-10A | Flare FS-541 Back-Up to Catalytic Incinerator (6) | CO | 16.49 | 19.79 | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NO _x | 3.24 | 3.88 | | | |
| | | VOC | 2.00 | 2.40 | | | |
| | | SO ₂ | 0.03 | 0.12 | | | |
| 1796-12A | Process Fugitives (5) | VOC | 3.52 | 15.40 | 3, 4, 16, 17, 24 | 3, 4, 16, 17, 24 | 3, 4, 16, 17, 24 |
| 1796-12B | Pellet Storage | VOC | 6.88 | - | 19 | 19 | 19 |
| 1796-12E | Product Loadout | VOC | 6.88 | - | 19 | 19 | 19 |
| 1796-20A/B | Pellet Dryers | VOC | 6.88 | - | 10, 19 | 10, 19 | 10, 19 |
| 1796-13A | Cooling Tower | VOC | 1.43 | 6.25 | 15, 37 | 15, 37 | 15, 37 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|---|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM | 0.85 | 2.24 | | | |
| | | PM ₁₀ | 0.85 | 2.24 | | | |
| | | PM _{2.5} | 0.85 | 2.24 | | | |
| 1796-15A | Emergency Generator | CO | 4.01 | 1.76 | | | |
| | | NOx | 18.60 | 8.15 | | | |
| | | PM | 1.32 | 0.58 | | | |
| | | PM ₁₀ | 1.32 | 0.58 | | | |
| | | PM _{2.5} | 1.32 | 0.58 | | | |
| | | VOC | 1.51 | 0.66 | | | |
| | | SO ₂ | 1.23 | 0.54 | | | |
| 1796-15B | Diesel Tank | VOC | 0.29 | 0.01 | 14 | 14 | 14 |
| 1796-16 | API Separator | VOC | 0.11 | 0.19 | | | |
| 1796-20C/D | Pellet Surge Hoppers | VOC | 6.88 | - | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| 1796-PCAP | Pellet Emission Cap Includes EPNs 1796- | VOC | - | 21.92 | 6, 19, 20 | 6, 19, 20 | 6, 19, 20 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|---|---|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | 09A/B/C/D/E/F/G/H/I, 1796-12B/E, and 1796-20A/B/C/D | | | | | | |
| ROUTINE MAINTENANCE, STARTUP, AND SHUTDOWN (MSS) EMISSIONS | | | | | | | |
| 1796-18A | Train 1 Reactor Vent H-549 | VOC | 10.00 | 0.44 | 10, 34 | 10, 34 | 10, 34 |
| 1796-18B | Train 2 Reactor Vent H-549 | VOC | 10.00 | 0.44 | 10, 34 | 10, 34 | 10, 34 |
| 1796-MSS | MSS Fugitive Emissions | VOC | 5.00 | 3.88 | 21, 22, 23 | 21, 22, 23 | 21, 22, 23 |
| | | PM | 0.05 | 0.01 | | | |
| | | PM ₁₀ | 0.05 | 0.01 | | | |
| | | PM _{2.5} | 0.05 | 0.01 | | | |

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

NO_x - total oxides of nitrogen

SO₂ - sulfur dioxide

PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented

PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented

PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter

CO - carbon monoxide

HCl - hydrogen chloride

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Represents emissions attributable to flaring of inlet stream normally routed to Catalytic Incinerator (EPN 1796-06G) during periods when the Catalytic Incinerator is not in service.
- (7) Only two of the five emission point between 1796-08A/B/C/D/M are authorized to emit simultaneously.

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|---|-------------------------------------|----------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO | | | | | | | |
| 1796-01A | Mineral Oil Scrubber | VOC | 0.70 | 0.26 | | | |
| 1796-01B | Mineral Oil Scrubber | VOC | 3.36 | 0.25 | | | |
| 1796-04A | Hexane Storage Tank | VOC | 0.19 | 0.27 | 3, 14 | 3, 14 | 3, 14 |
| 1796-04B | Recovered Oil Storage Tank | VOC | 0.32 | 0.33 | 14 | 14 | 14 |
| 1796-06H | Regenerative Thermal Oxidizer (RTO) | VOC | 2.73 | (7) | 3, 4, 7, 8, 10, 18 | 3, 4, 7, 8, 10, 18, 25 | 3, 4, 7, 8, 10, 18 |
| | | CO | 0.44 | 0.64 | | | |
| | | CO (Start-up/Maintenance) | 0.89 | - | | | |
| | | NOx | 0.16 | 0.35 | | | |
| | | NOx (Start-up/Maintenance) | 0.48 | - | | | |
| | | SO ₂ | 0.02 | 0.05 | | | |
| | | HCl | 0.30 | 1.12 | | | |
| | | PM | 0.02 | 0.07 | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM ₁₀ | 0.02 | 0.07 | | | |
| | | PM _{2.5} | 0.02 | 0.07 | | | |
| 1796-08A/B/M | Flake Bag Filter | VOC (6) (7) | 6.71 | -- | 10 | 10 | 10 |
| 1796-08A | Flake Bag Filter | PM | 0.02 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | <0.01 | | | |
| | | PM _{2.5} | 0.02 | <0.01 | | | |
| 1796-08B | Flake Bag Filter | PM | 0.02 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | <0.01 | | | |
| | | PM _{2.5} | 0.02 | <0.01 | | | |
| 1796-08M | Flake Bag Filter | PM | 0.02 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | <0.01 | | | |
| | | PM _{2.5} | 0.02 | <0.01 | | | |
| 1796-08C/D | Flake Bag Filter | VOC (6) (7) | 4.47 | -- | 10 | 10 | 10 |
| 1796-08A/B/C/D/M | Flake Bag Filter | HCl (8) | 0.10 | <0.01 | 10 | 10 | 10 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|-----------------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-08C | Flake Bag Filter | PM | 0.02 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | <0.01 | | | |
| | | PM _{2.5} | 0.02 | <0.01 | | | |
| 1796-08D | Flake Bag Filter | PM | 0.02 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | <0.01 | | | |
| | | PM _{2.5} | 0.02 | <0.01 | | | |
| 1796-19A/B | Rotary Airlock Vent Filters | VOC (6) (7) | 4.47 | -- | 10 | 10 | 10 |
| | | HCl | 0.06 | <0.01 | | | |
| 1796-19A | Rotary Airlock Vent Filter | PM | 0.06 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.06 | <0.01 | | | |
| | | PM _{2.5} | 0.06 | <0.01 | | | |
| 1796-19B | Rotary Airlock Vent Filter | PM | 0.06 | <0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.06 | <0.01 | | | |
| | | PM _{2.5} | 0.06 | <0.01 | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|--|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-CAP | Flake Emission SubCap (RTO Downtime) Includes EPNs:1796-08A/B/C/D/M, and 1796-19A /B | VOC (6) | -- | 0.33 | 3, 4, 6, 10, 19, 20 | 3, 4, 6, 10, 19, 20 | 3, 4, 6, 10, 19, 20 |
| 1796-08N | Flake Bag Filter | PM | 0.05 | 0.09 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.05 | 0.09 | | | |
| | | PM _{2.5} | 0.05 | 0.09 | | | |
| 1796-08O | Flake Bag Filter | PM | 0.05 | 0.09 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.05 | 0.09 | | | |
| | | PM _{2.5} | 0.05 | 0.09 | | | |
| 1796-08P | Flake Bag Filter | VOC (7) | 8.37 | -- | 10, 19 | 10, 19 | 10, 19 |
| | | PM | 0.01 | 0.01 | | | |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09A/I | Masterbatch Bag Filter | VOC (7) | 0.25 | -- | 10 | 10 | 10 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|------------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-09A | Masterbatch Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09B/C | Pellet Bag Filter | VOC (7) | 8.37 | -- | 10, 19 | 10, 19 | 10, 19 |
| 1796-09B | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09C | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09D/E/F/G/H/J | Pellet Bag Filter | VOC (7) | 8.37 | -- | 10, 19 | 10, 19 | 10, 19 |
| 1796-09D | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|-------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-09E | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09F | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09G | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09H | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-09J | Pellet Bag Filter | PM | 0.01 | 0.01 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.01 | 0.01 | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--|----------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | PM _{2.5} | 0.01 | 0.01 | | | |
| 1796-12B | Pellet Storage | VOC (7) | 8.37 | -- | 19 | 19 | 19 |
| 1796-12E | Product Loadout | VOC (7) | 8.37 | -- | 19 | 19 | 19 |
| 1796-20A/B | Pellet Dryers | VOC (7) | 8.37 | -- | 10, 19 | 10, 19 | 10, 19 |
| 1796-20C/D | Pellet Surge Hoppers | VOC (7) | 8.37 | -- | 10 | 10 | 10 |
| 1796-20C | Pellet Surge Hoppers | PM | 0.02 | 0.08 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | 0.08 | | | |
| | | PM _{2.5} | 0.02 | 0.08 | | | |
| 1796-20D | Pellet Surge Hoppers | PM | 0.02 | 0.08 | 11, 12, 13 | 11, 12, 13 | 11, 12, 13 |
| | | PM ₁₀ | 0.02 | 0.08 | | | |
| | | PM _{2.5} | 0.02 | 0.08 | | | |
| 1796-08P, 1796-09A/B/C/D/E/F/G/H/I/J, 1796-12B/E, 1796-20A/B/C/D | Pellet Hourly Cap | VOC | 14.80 | -- | 6, 19, 20 | 6, 19, 20 | 6, 19, 20 |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|---|--------------------------|----------------|---------|--|--|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-FPCAP | Pellet Annual Emission Cap Includes EPNs 1796-06G, 1796-06H, 1796-08A/B/C/D/M/P, 1796-09A/B/C/D/E/F/G/H/I/J, 1796-12B/E, 1796-19A/B, 1796-20A/B/C/D | VOC | - | 29.84 | 6, 10, 19, 20 | 6, 10, 19, 20 | 6, 10, 19, 20 |
| 1796-10A | Flare FS-541 Routine Operation | VOC | 33.03 | -- | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NOx | 7.96 | -- | | | |
| | | CO | 41.37 | -- | | | |
| | | SO ₂ | 0.18 | -- | | | |
| | Flare FS-541 MSS | VOC | 250.97 | -- | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NOx | 59.09 | -- | | | |
| | | CO | 304.41 | -- | | | |
| | | SO ₂ | 3.33 | -- | | | |
| | Flare FS-541 Back-Up to RTO | VOC | 2.00 | -- | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | NOx | 3.24 | -- | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--|--|--------------------------|----------------|---------|--|--|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| | | CO | 16.49 | -- | | | |
| | | SO ₂ | 0.27 | -- | | | |
| | Flare FS-541 Routine and MSS Annual Emission Cap | | -- | 37.16 | 8, 9, 10, 34, 39, 40, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53 | 8, 9, 10, 34, 40, 42, 43, 45, 46, 47, 48, 51, 53, 54 | 8, 9, 10, 34, 48 |
| | | | -- | 12.76 | | | |
| | | | -- | 68.28 | | | |
| | | | -- | 0.49 | | | |
| 1796-12A | Process Fugitives (5) | VOC | 3.50 | 15.30 | 3, 4, 16, 17, 24 | 3, 4, 16, 17, 24 | 3, 4, 16, 17, 24 |
| 1796-13A | Cooling Tower | VOC | 1.43 | 6.25 | 15, 37 | 15, 37 | 15, 37 |
| | | PM | 0.85 | 2.24 | | | |
| | | PM ₁₀ | 0.34 | 0.89 | | | |
| | | PM _{2.5} | 0.09 | 0.22 | | | |
| 1796-15B | Diesel Tank | VOC | 0.29 | 0.01 | 14 | 14 | 14 |
| 1796-16 | API Separator | VOC | 0.11 | 0.19 | | | |
| ROUTINE MAINTENANCE, STARTUP, AND SHUTDOWN (MSS) EMISSIONS | | | | | | | |

Major NSR Summary Table

| Permit Numbers: 19027 and N296 | | | | | Issuance Date: January 12, 2024 | | |
|--------------------------------|----------------------------|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-18A | Train 1 Reactor Vent H-549 | VOC | 10.00 | 0.44 | 10, 34 | 10, 34 | 10, 34 |
| 1796-18B | Train 2 Reactor Vent H-549 | VOC | 10.00 | 0.44 | 10, 34 | 10, 34 | 10, 34 |
| 1796-MSS | MSS Fugitive Emissions | VOC | 5.00 | 3.88 | 21, 22, 23 | 21, 22, 23 | 21, 22, 23 |
| | | PM | 0.05 | 0.01 | | | |
| | | PM ₁₀ | 0.05 | 0.01 | | | |
| | | PM _{2.5} | 0.05 | 0.01 | | | |

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

NOx - total oxides of nitrogen

SO₂ - sulfur dioxide

PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented

PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented

PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter

CO - carbon monoxide

HCl - hydrogen chloride

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) Annual emissions are included in EPN 1796-CAP which is authorized when the RTO (EPN 1796-06H) is down.

(7) Annual emissions are included in EPN 1796-FPCAP.

(8) Only two of the five emission point between 1796-08A/B/C/D/M are authorized to emit simultaneously.

Major NSR Summary Table

| Permit Numbers: 135086 and N224 | | | | | Issuance Date: September 28, 2023 | | |
|--|---|--------------------------|----------------|---------|---|---|---|
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | | Monitoring and Testing Requirements | Recordkeeping Requirements | Reporting Requirements |
| | | | lb/hr | TPY (4) | Special Condition/Application Information | Special Condition/Application Information | Special Condition/Application Information |
| 1796-10A 1798-22 1799-20 45 110 129 | Flare Group (6) FS-541 Z-1101 FS-9006 X-901 Z-101 Z-251 | VOC | 135.62 | 34.33 | 2, 3, 4, 6, 7 | 2, 3, 4, 6, 7, 8 | 3, 4 |
| | | NO _x | 16.04 | 4.06 | | | |
| | | CO | 103.91 | 26.30 | | | |

(1) Emission point identification - either specific equipment designation or emission point number (EPN) from plot plan.

(2) Specific point source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

NO_x - total oxides of nitrogen

CO - carbon monoxide

(4) Compliance with hourly emission limits (pounds per hour) is in addition to emissions authorized by Permit Nos. 2462C, 19027, 46305, and 37063 for the listed EPNs.

(5) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period and is in addition to emissions authorized by Permit Nos. 2462C, 19027, 46305, and 37063 for the listed EPNs

(6) Purge gas may be vented to a combination of one or more flares in the designated group as described in Special Conditions Attachment B and permit application representations.



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Chevron Phillips Chemical Company LP
Authorizing the Construction and Operation of
Cedar Bayou Plant
Located at **Baytown, Harris County, Texas**
Latitude 29.822222 *Longitude* -94.921666

Permits: 19027 and N296

Revision Date: January 12, 2024

Expiration Date: September 27, 2028



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)] ¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)] ¹
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC§ 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit. ¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

| | |
|--|---|
| °C = Temperature in degrees Celsius | GLCmax = maximum (predicted) ground-level concentration |
| °F = Temperature in degrees Fahrenheit | gpm = gallon per minute |
| °K = Temperature in degrees Kelvin | gr/1000scf = grain per 1000 standard cubic feet |
| µg = microgram | gr/dscf = grain per dry standard cubic feet |
| µg/m ³ = microgram per cubic meter | H ₂ CO = formaldehyde |
| acfm = actual cubic feet per minute | H ₂ S = hydrogen sulfide |
| AMOC = alternate means of control | H ₂ SO ₄ = sulfuric acid |
| AOS = alternative operating scenario | HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C |
| AP-42 = Air Pollutant Emission Factors, 5th edition | HC = hydrocarbons |
| APD = Air Permits Division | HCl = hydrochloric acid, hydrogen chloride |
| API = American Petroleum Institute | Hg = mercury |
| APWL = air pollutant watch list | HGB = Houston/Galveston/Brazoria |
| BPA = Beaumont/ Port Arthur | hp = horsepower |
| BACT = best available control technology | hr = hour |
| BAE = baseline actual emissions | IFR = internal floating roof tank |
| bbl = barrel | in H ₂ O = inches of water |
| bbl/day = barrel per day | in Hg = inches of mercury |
| bhp = brake horsepower | IR = infrared |
| BMP = best management practices | ISC3 = Industrial Source Complex, a dispersion model |
| Btu = British thermal unit | ISCST3 = Industrial Source Complex Short-Term, a dispersion model |
| Btu/scf = British thermal unit per standard cubic foot or feet | K = Kelvin; extension of the degree Celsius scaled-down to absolute zero |
| CAA = Clean Air Act | LACT = lease automatic custody transfer |
| CAM = compliance-assurance monitoring | LAER = lowest achievable emission rate |
| CEMS = continuous emissions monitoring systems | lb = pound |
| cfm = cubic feet (per) minute | lb/day = pound per day |
| CFR = Code of Federal Regulations | lb/hr = pound per hour |
| CN = customer ID number | lb/MMBtu = pound per million British thermal units |
| CNG = compressed natural gas | LDAR = Leak Detection and Repair (Requirements) |
| CO = carbon monoxide | LNG = liquefied natural gas |
| COMS = continuous opacity monitoring system | LPG = liquefied petroleum gas |
| CPMS = continuous parametric monitoring system | LT/D = long ton per day |
| DFW = Dallas/ Fort Worth (Metroplex) | m = meter |
| DE = destruction efficiency | m ³ = cubic meter |
| DRE = destruction and removal efficiency | m/sec = meters per second |
| dscf = dry standard cubic foot or feet | MACT = maximum achievable control technology |
| dscfm = dry standard cubic foot or feet per minute | MAERT = Maximum Allowable Emission Rate Table |
| ED = (TCEQ) Executive Director | MERA = Modeling and Effects Review Applicability |
| EF = emissions factor | mg = milligram |
| EFR = external floating roof tank | mg/g = milligram per gram |
| EGU = electric generating unit | mL = milliliter |
| EI = Emissions Inventory | MMBtu = million British thermal units |
| ELP = El Paso | MMBtu/hr = million British thermal units per hour |
| EPA = (United States) Environmental Protection Agency | MSDS = material safety data sheet |
| EPN = emission point number | MSS = maintenance, startup, and shutdown |
| ESL = effects screening level | MW = megawatt |
| ESP = electrostatic precipitator | NAAQS = National Ambient Air Quality Standards |
| FCAA = Federal Clean Air Act | NESHAP = National Emission Standards for Hazardous Air Pollutants |
| FCCU = fluid catalytic cracking unit | NGL = natural gas liquids |
| FID = flame ionization detector | NNSR = nonattainment new source review |
| FIN = facility identification number | NO _x = total oxides of nitrogen |
| ft = foot or feet | NSPS = New Source Performance Standards |
| ft/sec = foot or feet per second | |
| g = gram | |
| gal/wk = gallon per week | |
| gal/yr = gallon per year | |
| GLC = ground level concentration | |

PAL = plant-wide applicability limit
PBR = Permit(s) by Rule
PCP = pollution control project
PEMS = predictive emission monitoring system
PID = photo ionization detector
PM = periodic monitoring
PM = total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
PM₁₀ = total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
POC = products of combustion
ppb = parts per billion
ppm = parts per million
ppmv = parts per million (by) volume
psia = pounds (per) square inch, absolute
psig = pounds (per) square inch, gage
PTE = potential to emit
RA = relative accuracy
RATA = relative accuracy test audit
RM = reference method
RVP = Reid vapor pressure
scf = standard cubic foot or feet
scfm = standard cubic foot or feet (per) minute
SCR = selective catalytic reduction
SIL = significant impact levels
SNCR = selective non-catalytic reduction
SO₂ = sulfur dioxide
SOCMI = synthetic organic chemical manufacturing industry
SRU = sulfur recovery unit
TAC = Texas Administrative Code
TCAA = Texas Clean Air Act
TCEQ = Texas Commission on Environmental Quality
TD = Toxicology Division
TLV = threshold limit value
TMDL = total maximum daily load
tpd = tons per day
tpy = tons per year
TVP = true vapor pressure
VOC = volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
VRU = vapor recovery unit or system

Special Conditions

Permit Numbers 19027 and N296

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.
2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions.

Federal Applicability

3. This facility shall comply with all applicable requirements of the EPA regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):
 - A. Subpart A: General Provision
 - B. Subpart Kb: Standards of Performance for New Stationary Sources promulgated for Storage Vessels for Petroleum Liquids Constructed after May 23, 1984
 - C. Subpart DDD: Standards of Performance for VOC Emissions from the Polymer Manufacturing Industry
4. This facility shall comply with all applicable requirements of the EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:
 - A. Subpart A: General Provision
 - B. Subpart FFFF: National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing (MON).

Emission Standards and Operational Specifications

5. This permit authorizes annual production of up to 1,200 million (MM) pounds per year. The facility will produce copolymers and homopolymers within the hourly throughput constraints contained in the Table 2 submitted with application form PI-1 dated (October 18, 2016), including subsequent updates to the application

After start-up of expanded operations as authorized by the amendment dated April 11, 2019, this permit authorizes annual production of up to 1,400 million (MM) pounds per year. The facility shall produce copolymers and homopolymers within the hourly throughput constraints contained in the Table 2 submitted with application form PI-1 dated (April 11, 2019), including subsequent updates to the application. **(6/22)**

6. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all sources of emissions subject to the emission limits applying to EPNs 1796-CAP and 1796-FPCAP during the previous calendar month and the past rolling 12-month period. The record shall include production records used to demonstrate compliance with this Special Condition, emission

Special Conditions

Permit Numbers 19027 and N296

Page 2

factors determined from sampling data as required pursuant to Special Condition No. 18, and sample calculations. **(6/22)**

7. Visible emissions from the Regenerative Thermal Oxidizer (EPN 1796-06H) shall not exceed 5 percent opacity averaged over a six-minute period, as determined by the EPA reference Method 9, except for those periods described in 30 TAC § 111.111(a)(1)(E). **(6/22)**

Control Devices

8. Fuel gas combusted at this facility shall be sweet natural gas containing no more than 2 grains of total sulfur per 100 dry standard cubic feet. Use of any other fuel for normal operations or standby purposes requires a permit amendment and approval from the Executive Director of the TCEQ. The natural gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement. **(6/22)**

9. The Flare FS-541 (EPN 1796-10A) and associated closed vent capture system shall be designed and operated in accordance with the following requirements:

- A. The flare systems shall be designed such that the combined assist natural gas and waste stream to the flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity at all times when emissions may be vented to them.

The heating value and velocity requirements shall be satisfied during operations authorized by this permit. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.

- B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated or have a calibration check performed at a frequency in accordance with the manufacturer's specifications.
- C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. This shall be ensured by the use of steam assist to the flare.
- D. The permit holder shall install a continuous flow monitor and composition analyzer system that provides a record of the vent stream flow and composition (total VOC) to the flare. The flow monitoring system shall be capable of measuring the entire gas stream flow to the flare (i.e., all vent gas and supplemental fuel sources) and may consist of one or more flow measurements at one or more header locations. The heating value monitoring system shall be capable of determining the flow-weighted heating value for the entire gas stream to the flare (i.e., all vent gas and supplemental fuel sources) and may consist of one or more sampling locations at one or more header locations. Grab samples taken at least annual or a reference heating value may be used for purchased natural gas in lieu of direct measurement. The flow monitor sensor(s) and analyzer(s) sample point(s) shall be installed in the vent stream(s) as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour.

(12/20)

The monitors shall be calibrated or have a calibration check performed on an annual basis to meet the following accuracy specifications: the flow monitor shall be $\pm 5.0\%$, temperature monitor shall be $\pm 2.0\%$ at absolute temperature, and pressure monitor shall be ± 5.0 mm Hg.

Calibration of the analyzer shall follow the procedures and requirements of Section 10.0 of 40 CFR Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744), except that the multi-point calibration procedure in Section 10.1 of Performance Specification 9 shall be performed at least once every calendar quarter instead of once every month, and the mid-level calibration check procedure in Section 10.2 of Performance Specification 9 shall be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures shall be in accordance with Section 7.1 of Performance Specification 9. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3) as amended through October 17, 2000 (65 FR 61744).

The monitors and analyzers shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12-month period consistent with applicable requirements contained in 30 TAC 115 Subchapter H. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR §§60.18(f)(3) and 60.18(f)(4) shall be recorded at least once every hour. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit amendment application (PI-1 dated October 18, 2016) and subsequent updates to that application.

- E. The flare (EPN 1796-10A) shall operate in accordance with Special Conditions 9 and 39 through 54, Attachment D of these Special Conditions, 40 CFR Part 63, Subpart FFFF "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing", and the Consent Decree issued by the U.S. EPA. Special Conditions 39 through 54 and Attachment D include the requirements established in the Consent Decree issued by the U.S. EPA, effective March 9, 2022 and identified as Civil Case 4:22-cv-00737. If there is a conflict in compliance with Special Conditions 9, Special Conditions 39 through 54, Attachment D, 40 CFR Part 63, Subpart FFFF, and the Consent Decree, then the most stringent requirement shall apply. **(09/23)**
- F. The following requirements apply to the closed vent capture system which includes all equipment that contains, collects, and transports air pollutants from a source to flare EPN 1796-10A.
- (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or
 - (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 parts per million by volume (ppmv) above background; or,
 - (3) Maintain the capture system under negative pressure at all times, verified and recorded weekly with a pressure measurement device.
- For unsafe-to-inspect parts of a closed vent systems the applicant shall maintain a written plan, available at the site and upon request, for inspecting the equipment as frequently as practicable during safe-to-inspect conditions. The plan shall identify and explain the inherent dangers associated with of all parts of the closed vent system that are designated as unsafe. Inspection is not required more than once in any 12-month period.
- G. All bypasses for Flare FS-541 (EPN 1796-10A) shall comply with either of the following requirements:
- (1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent

stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

- (2) Once a month, inspect the valves, verifying the position of the valves and the condition of the car seals prevent flow out the bypass.

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device. A bypass does not include highpoint bleeder vents and low point drains.

- H. Records of the inspections required shall be maintained and if the results of any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.

10. The Regenerative Thermal Oxidizer (RTO) (EPN 1796-06H) shall be designed and operated in accordance with the following requirements: **(6/22)**

- A. The RTO shall maintain the VOC concentration in the exhaust to less than 10 ppmv on a dry basis or achieve a VOC destruction efficiency greater than 99 percent.
- B. The RTO firebox exit temperature shall be maintained at not less than 1400 °F on a six-minute average while waste gas is being fed into the oxidizer prior to initial stack testing. After the initial stack test has been completed, the six-minute average temperature shall be equal to, or greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Special Condition No. 18.
- C. The RTO firebox exit temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^\circ\text{C}$.

Quality assured (or valid) data must be generated when the RTO is operating. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the RTO operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

- D. The following requirements apply to the capture systems for the RTO.
 - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or
 - (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.
 - (3) The bypass for the control device shall comply with one of the following requirements:
 - (a) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or
 - (b) Once a month, inspect the valves, verifying the position of the valves and the condition of the car seals which prevent flow out of the bypass.

- (c) Verifying the position of the valves to record when flow out of the bypass is occurring through the use of electronic valve position indicators with a position recorded at least once every 15 minutes.

A bypass does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly. A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when it is required to be in service. It is not a deviation for the bypass to occur for up to 120 hours per year as authorized in this permit.

- (4) Records of the inspections or valve positions required shall be maintained and if the results of any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.
- E. Emissions to the atmosphere from EPNs 1796-08A/B/C/D/M and 1796-19A/B may occur during periods of RTO downtime. During periods when the Regenerative Thermal Oxidizer (EPN 1796-06H) is not in operation, the tertiary degassers normally routed to the RTO shall be routed to Flare FS-541 (EPN 1796-10A), except for authorized MSS activities associated with EPNs 1796-18A and/or 1796-18B. The period during which the emissions from these EPNs shall occur shall not exceed 120 hours on a rolling 12-month basis. Records shall be maintained for at least five years documenting RTO (EPN 1796-06H) emissions and duration of each occurrence.
- F. The startup/maintenance emission rates authorized on the MAERT are limited to 19 hours each rolling 12-month period. Records shall be maintained to demonstrate compliance.

Filter Systems for Particulate Matter

- 11. All baghouses and bag filter systems shall be effective in capturing emissions from its associated equipment and in preventing particulate emissions from escaping. The baghouses and bag filter systems shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the emission capture system.
- 12. Each baghouse and bag filter system covered by this permit shall not operate unless each baghouse and bag filter and associated equipment is maintained in good working order and operating during normal facility operations. Records shall be maintained of all inspections and maintenance performed. The following steps shall be performed, at a minimum, to ensure proper operation of each baghouse and bag filter:
 - A. When there are visible stack emissions from any one baghouse or bag filter, the process affecting that baghouse or bag filter shall be shut down or diverted to a functioning baghouse or bag filter. The entire baghouse or bag filter shall be tested for proper operation of the cleaning cycle, inspected for failed or damaged parts, and failed or damaged parts shall be repaired or replaced.
 - B. A spare parts inventory for the baghouses and bag filters shall be maintained at the site for this facility.
- 13. The baghouses EPNs 1796-08A/B/C/D/M/N/O/P, 1796-09A/B/C/D/E/F/G/H/J, 1796-19A/B and pellet surge hoppers EPNs 1796-20C/D shall have particulate matter outlet grain loading not to exceed 0.01 grain per dscf of air from any vents. There shall be no visible emissions exceeding 30 seconds in any six-minute period as determined using EPA Test Method 22.

The pressure drop monitoring shall be installed prior to start-up of expanded operations as authorized by the amendment dated April 11, 2019. The differential pressure across the baghouse (EPNs 1796-08/N/O/P and 1796-09J) shall be monitored and recorded at least once per day when the bag houses are in operation. The pressure drop shall be at least 0.5 inches of water and shall not exceed 10 inches of water. If the bags have been in service for less than one week and the differential pressure is less than 0.5 inches, the permit holder may determine that the minimum differential pressure requirement is satisfied by verifying that there are no visible emissions from the baghouse in accordance with Special Condition No.11. The number of days that the bags have been in service and the result of each of the visible emissions checks shall be recorded for each baghouse.

Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 0.5 inches water gauge pressure or 0.5 percent of span. **(6/22)**

Storage of Volatile Organic Compounds (VOC)

14. Storage tanks shall be limited to the service and throughput data represented in the confidential section of the permit amendment application (PI-1 dated November 19, 2013).

Storage tanks are subject to the following requirements: The control requirements specified in parts A-C of this condition shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.50 psia at the maximum feed temperature or 95°F, whichever is greater, or (2) to storage tanks smaller than 25,000 gallons.

- A. The tank emissions must be controlled as specified in one of the paragraphs below:
- (1) An internal floating deck or "roof" shall be installed. A domed external floating roof tank is equivalent to an internal floating roof tank. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal.
 - (2) An open-top tank shall contain a floating roof (external floating roof tank) which uses double seal or secondary seal technology provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal and the secondary seal is rim-mounted. A weather shield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.
- B. For any tank equipped with a floating roof, the permit holder shall perform the visual inspections and any seal gap measurements specified in Title 40 Code of Federal Regulations § 60.113b (40 CFR § 60.113b) Testing and Procedures (as amended at 54 FR 32973, Aug. 11, 1989) to verify fitting and seal integrity. Records shall be maintained of the dates inspection was performed, any measurements made, results of inspections and measurements made (including raw data), and actions taken to correct any deficiencies noted.
- C. The floating roof design shall incorporate sufficient flotation to conform to the requirements of API Code 650 dated November 1, 1998 except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.
- D. Except for labels, logos, etc. not to exceed 15 percent of the tank total surface area, uninsulated tank exterior surfaces exposed to the sun shall be white or unpainted aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

- E. The permit holder shall maintain a record of tank throughput for the previous month and the past consecutive 12-month period for each tank.

Cooling Tower

- 15. The cooling tower (EPN 1796-13A) shall be operated and monitored in accordance with the following:

- A. The VOC associated with cooling tower water shall be monitored weekly with an approved air stripping system, or cooling tower monitoring method in 30 TAC Chapter 115 Subchapter H, Division 2 (dated December 23, 2004), or equivalent.

The appropriate equipment shall be maintained so as to minimize VOC emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity, but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained for a period of five years. The records shall be made immediately available to the TCEQ Executive Director upon request and be kept at the plant site. **(11/22)**

- B. Cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.001% drift or less. Drift eliminators shall be maintained and inspected at least annually. The permit holder shall maintain records of all inspections and repairs.
- C. Total dissolved solids (TDS) shall not exceed 5000 parts per million by weight (ppmw) hourly and 3000 parts per million by weight annually. Dissolved solids in the cooling water drift are considered to be emitted as PM, PM₁₀, and PM_{2.5} as represented in the permit application calculations.
- D. Cooling water shall be sampled at least once per week for TDS.
- E. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.
 - (1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection and transferred to a laboratory area for analysis.
 - (2) Alternate sampling and analysis methods may be used to comply with E(1) with written approval from the TCEQ Regional Director.
 - (3) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.
- F. Emission rates of PM, PM₁₀ and PM_{2.5} shall be calculated using the measured TDS, the design drift rate and the daily maximum and average actual cooling water circulation rate for the short term and annual average rates. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated monthly.

Fugitives

Piping, Valves, Connectors, Pumps, and Compressors in VOC Service - 28VHP

- 16. Except as may be provided for in the Special Conditions of this permit, the following requirements apply to the above-referenced equipment:

- A. The requirements of paragraphs F and G shall not apply (1) where the Volatile Organic Compound (VOC) has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

The exempted components may be identified by one or more of the following methods:

- (1) piping and instrumentation diagram (PID);
 - (2) a written or electronic database or electronic file;
 - (3) color coding;
 - (4) a form of weatherproof identification; or
 - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.
- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open-ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period:

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or
- (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the

results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72-hour period following the creation of the open-ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. 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 condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. 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. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

28CNTQ (Connectors in VOC Service Inspected Quarterly)

17. Connectors in VOC service - 28CNTQ

- A. In addition to the weekly physical inspection required by Item E of Special Condition No. 16, all accessible connectors in gas/vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Items F through J of Special Condition No. 16.
- B. In lieu of the monitoring frequency specified in paragraph A, connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Connectors may be monitored on an annual basis if the percent of connectors leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

If the percent of connectors leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

- C. The percent of connectors leaking used in paragraph B shall be determined using the following formula:

$$(Cl + Cs) \times 100/Ct = Cp$$

Where:

Cl = the number of connectors found leaking by the end of the monitoring period, either by Method 21 or sight, sound, and smell.

Cs = the number of connectors for which repair has been delayed and are listed on the facility shutdown log.

Ct = the total number of connectors in the facility subject to the monitoring requirements, as of the last day of the monitoring period, not including nonaccessible and unsafe-to-monitor connectors.

Cp = the percentage of leaking connectors for the monitoring period.

Initial Determination of Compliance

18. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Regenerative Thermal Oxidizer (EPN 1796-06H) to demonstrate compliance with the MAERT and Special Condition No. 10. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and the EPA Reference Methods.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have EPA approval shall be submitted to the TCEQ Regional Director. **(6/22)**

- A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:
- (1) Proposed date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.
 - (5) Method or procedure to be used in sampling.
 - (6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
 - (7) Procedure/parameters to be used to determine worst case emissions such as production rate or air flow rate and regenerative thermal oxidizer temperature during the sampling period.
 - (8) The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.
- B. Air contaminants emitted from the Regenerative Thermal Oxidizer (EPN 1796-06H) to be tested for include VOC, CO, and NOx.

- C. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the facilities (or increase in production, as appropriate) and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.
- D. The facility being sampled shall operate at the maximum achievable operating rate with the regenerative thermal oxidizer temperature during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

During subsequent operations, the permit holder may operate at a short-term operating rate greater than the rate recorded during the last successful test period provided the new rate does not exceed 105% of the operating rate recorded during the test. The permit holder may operate at this operating rate without additional stack test unless otherwise required by the Executive Director.

During subsequent operations, if the maximum production rates are greater than 105% of that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

- E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:
 - One copy to the appropriate TCEQ Regional Office.
 - One copy to each local air pollution control program.
- F. Sampling ports and platform(s) shall be incorporated into the design of the inlet and exhaust stack of the RTO (EPN 1796-06H) according to the specifications set forth in the attachment entitled "Chapter 2, Guidelines For Stack Sampling Facilities" of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

- 19. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of VOC being emitted into the atmosphere from the sources identified in paragraph A of this Special Condition and to demonstrate compliance with the requirements of the MAERT pertaining to emission points 1796-FPCAP.

The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and the EPA Reference Methods.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60) testing which must have EPA approval shall be submitted to the TCEQ Regional Director. **(6/22)**

- A. Sources to be tested include the following:

- (1) Flake Bag Filter (EPN 1796-08P)
 - (2) One Pellet Dryer per train (EPNs 1796-20A and 1796-20B);
 - (3) One pellet Bag Filter per train (EPNs 1796-09B and 1796-09C); One pellet Bag Filter per train (EPNs 1796-09D and 1796-09E)
 - (4) At least three product Blender Silos per train (EPN: 1796-12B, FINs VE-861-0, VE-862-0, VE-863-0, VE-864-0, VE-865-0, VE-866-0, VE-867-0, VE-868-0, VE-869-0, VE-870-0, VE-871-0, VE-872-0, VE-873-0, VE-874-0);
 - (5) One Product Loadout Blender per train (EPN: 1796-12E, FINs VE-880-0, VE-881-0, VE-882-0, VE-883-0).
- B. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:
- (1) Proposed date for pretest meeting.
 - (2) Date sampling will occur.
 - (3) Name of firm conducting sampling.
 - (4) Type of sampling equipment to be used.
 - (5) Method or procedure to be used in sampling.
 - (6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
 - (7) Procedures/parameters to be used to determine worst-case emissions during the sampling period. Parameters to determine worst-case emissions shall include, but are not limited to: worst-case polyethylene grade and worst-case production rate.
- The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.
- C. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after start-up of expanded operations and at such other times as may be required by the Executive Director of the TCEQ Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office.
- D. Each polyethylene production line being sampled shall be operated at its maximum production rate during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this Special Condition if the proposed condition/parameter range is identified in the test notice specified in paragraph B and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.
- If any of the following changes in operating conditions occur at a production train, stack sampling shall be performed at the new operating conditions within 120 days for such train.
- (1) The production rate for the train exceeds by 5% or greater the maximum 1-hr average production rate achieved during the most recent satisfactory stack test;
 - (2) The train undergoes a change in catalyst family; or

(3) The train undergoes a change in comonomer.

This sampling may be waived by the TCEQ Air Section Manager for the region.

- E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:
- One copy to the appropriate TCEQ Regional Office.
- One copy to each local air pollution control program.
- F. The permit holder shall calculate the VOC emission factor (in units of lb VOC/million pounds polyethylene produced) for each source identified in paragraph A of this Special Condition and shall attach such calculation to the final sampling report referred to in paragraph E of this Special Condition.

Ongoing Demonstration of Compliance

20. Prior to the start-up of expanded operations, the total residual VOC in polyethylene produced in any train shall not exceed 100 parts per million by weight (ppmw) on a production mass-weighted rolling 12-month average. After the start-up, the total VOC emitted to the atmosphere from all flake and pellet handling ((EPN 1796-FPCAP) shall not exceed 40 pounds of VOC/million (MM) pounds of polyethylene pellets on a production mass-weighted rolling 12-month average. Compliance with this Special Condition shall be determined as follows. **(6/22)**
- A. An approved VOC head space test method shall be used to determine the total residual VOC in a sample. The test method shall be capable of determining the total residual concentrations of VOC species having 12 or fewer carbon atoms. The permit holder shall submit a proposed test method for approval to the Executive Director or to the Air Section Manager for the Regional Office within 180 days of issuance of the permit amendment (form PI-1 filed March 17, 2015). Upon approval, a copy of the approved test method shall be retained at the plant site and attached to a copy of the permit.
- B. Production records maintained as required by General Condition 7 shall be used to determine the production mass-weighted rolling 12-month average residual VOC concentration.
- C. Prior to the start-up of expanded operations, samples of resin shall be collected at the flake classifier. After the start-up, samples of resin shall be collected downstream of the pellet surge hopper for Train 1 and downstream of the pellet classifier for Train 2. **(11/22)**
- D. Monthly average sampling shall be based on a minimum of one sample per train per week when the train is in operation.
- E. The following records shall be maintained for each sample:
- (1) Date and time of sample.
 - (2) Actual plant production rate at the time of sampling and monthly production rate.
 - (3) Product number, resin type and melt index.
 - (4) Sampled residual VOC concentration.

Maintenance, Startup, and Shutdown (MSS)

21. This permit authorizes emissions from Polyethylene Unit 1796 (PEU 1796) for the planned MSS activities summarized in the MSS Activity Summary (Attachment C) attached to this permit.

These emissions are subject to the maximum allowable emission rates indicated on the MAERT.

Attachment A identifies the inherently low emitting MSS activities that may be performed at the plant. Emissions from activities identified in Attachment A shall be considered to be equal to the potential to emit represented in the permit application. The estimated emissions from the activities listed in Attachment A must be revalidated annually. This revalidation shall consist of the estimated emissions for each type of activity and the basis for that emission estimate.

Routine maintenance activities, as identified in Attachment B may be tracked through the work orders or equivalent. Emissions from activities identified in Attachment B shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application.

- A. The performance of each planned MSS activity not identified in Attachments A or B and the emissions associated with it shall be recorded and include at least the following information: the physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;
- B. the type of planned maintenance, startup, or shutdown activity and the reason for the planned activity;
- C. the common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;
- D. the date and time of the MSS activity and its duration;
- E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the amendment application, consistent with good engineering practice.

MSS activities shall be summed monthly and rolling 12-month emissions shall be updated on a monthly basis.

22. Process units and facilities shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements. Note: Attachment A activities are exempt from these requirements.

- A. The process equipment shall be depressurized to a control device or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material that is liquid with VOC partial pressure less than 0.50 psi at the actual process temperature and 95°F may be opened to atmosphere and drained in accordance with paragraph C of this special condition. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.
- B. If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. If the VOC partial pressure is greater than 0.50 psi at either the actual process temperature or 95°F, any vents in the system must be routed to a control device or a

controlled recovery system. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. Control must remain in place until degassing has been completed or the system is no longer vented to atmosphere.

- C. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Liquids must be drained into a closed vessel unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.
- D. If the VOC partial pressure is greater than 0.50 psi at the actual process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through a control device or controlled recovery system to the extent allowed by process equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. The facilities shall not be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC concentration following controlled depressurization.
 - (1) For MSS activities identified in Attachment B, the following option may be used in lieu of (2) below. The facilities being prepared for maintenance shall not be vented directly to atmosphere until the VOC concentration has been verified to be less than 10 percent of the lower explosive limit (LEL) per the site safety procedures.
 - (2) The locations and/or identifiers where the purge gas or steam enters the process equipment the exit points for the exhaust gases shall be recorded (process flow diagrams [PFDs] or piping and instrumentation diagrams [P&IDs] may be used to demonstrate compliance with the requirement). If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify acceptable VOC concentration prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument meeting the requirements of Special Condition No. 24. The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. Documented site procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above. The venting shall be minimized to the maximum extent practicable and actions taken recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.
- E. Gases and vapors with VOC partial pressure greater than 0.50 psi may be vented directly to atmosphere if all the following criteria are met:
 - (1) It is not technically practicable to depressurize or degas, as applicable, into the process.
 - (2) There is not an available connection to a plant control system (flare).
 - (3) There is no more than 50 lb of VOC to be vented to atmosphere during MSS activity, as applicable.

All instances of venting directly to atmosphere per this condition must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in calculation basis for those planned MSS activities identified in Attachment B.

23. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below

- A. VOC concentration shall be measured using an instrument meeting all the requirements specified in EPA Method 21 (40 CFR Part 60, Appendix A) with the following exceptions:

- (1) The instrument shall be calibrated within 24 hours of use with a calibration gas. The calibration gas used and its concentration, and the vapor to be sampled and its approximate response factor (RF), shall be recorded. If the RF of the VOC (or mixture of VOCs) to be monitored is greater than 2.0, the VOC concentration shall be determined as follows:

VOC Concentration = Concentration as read from the instrument*RF

In no case should a calibration gas be used such that the RF of the VOC (or mixture of VOCs) to be monitored is greater than 5.0.

- (2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. The highest measured VOC concentration shall not exceed the specified VOC concentration limit prior to uncontrolled venting.

- B. Colorimetric gas detector tubes may be used to determine air contaminant concentrations if they are used in accordance with the following requirements.

- (1) The air contaminant concentration measured is less than 80 percent of the range of the tube. If the maximum range of the tube is greater than the release concentration defined in iii., the concentration measured is at least 20 percent of the maximum range of the tube.

- (2) The tube is used in accordance with the manufacturer's guidelines.

- (3) At least 2 samples taken at least 5 minutes apart must satisfy the following prior to uncontrolled venting:

measured contaminant concentration (ppmv) < release concentration.

Where the release concentration is:

10,000 times the mole fraction of the total air contaminants present that can be detected by the tube.

The mole fraction may be estimated based on process knowledge. The release concentration and basis for its determination shall be recorded.

Records shall be maintained of the tube type, range, measured concentrations, and time the samples were taken.

- C. Lower explosive limit measured with a lower explosive limit detector.

- (1) The detector shall be calibrated within 30 days of use with a certified propane, pentane, methane or ethylene gas standard at 25% of the lower explosive limit (LEL)

- for propane, pentane, methane or ethylene. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.
- (2) A functionality test shall be performed on each detector within 24 hours of use using the same certified gas standard used for calibration. The LEL monitor shall read no lower than 90% of the calibration gas certified value. Records, including the date/time and test results, shall be maintained.
- D. An on-line analyzer which measures VOC.
- (1) The air contaminant concentration may not exceed 10,000 ppmv VOC.
- (2) The analyzer shall be calibrated and maintained as described in Special Condition No. 24.
24. This condition applies only to piping and components subject to leak detection and repair monitoring requirements identified in other NSR permits. Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the isolation of equipment for hot work or the removal of a component for repair or replacement results in an open-ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the permit holder must complete either of the following actions within that time period;
- A. A cap, blind flange, plug, or second valve must be installed on the line or valve; or
- B. The open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open-ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.
25. All permanent facilities must comply with all operating requirements, limits, and representations in this permits during planned startup and shutdown unless alternate requirements and limits are identified in this permit. Alternate requirements for emissions from routine emission points are identified below.
- A. Combustion units, with the exception of flares, at this site are exempt from NO_x and CO operating requirements identified in special conditions in other NSR permits during planned startup and shutdown if the following criteria are satisfied.
- (1) The maximum allowable emission rates in the permit authorizing the facility are not exceeded.
- (2) The startup period does not exceed 8 hours in duration and the firing rate does not exceed 75 percent of the design firing rate. The time it takes to complete the shutdown does not exceed 4 hours.
- (3) Control devices are started and operating properly when venting a waste gas stream.
- B. A record shall be maintained indicating that the start and end times of each of the activities identified above occur and documentation that the requirements for each have been satisfied.

Special Conditions

Permit Numbers 19027 and N296

Page 19

26. Additional occurrences of MSS activities authorized by this permit (see Attachment C) may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.

Catalytic Incinerator

27. Prior to installation and start-up of the RTO (EPN 1796-06H), the existing catalytic incinerator (EPN 1796-06G) shall comply with the Special Conditions 28 through 34. After the start-up of expanded operations using the RTO, emissions from the catalytic incinerator shall no longer be authorized.
28. The holder of this permit shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) to measure and record the concentration of VOC in the Catalytic Incinerator Exhaust Stacks (EPN 1796-06G).
- A. Each CEMS shall meet the design and performance specifications, pass the field tests, meet the installation requirements, data analysis, and reporting requirements specified in Performance Specifications No. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division in Austin for requirements to be met. Written copies of the performance test results shall be submitted within 60 days of testing completion to the TCEQ Houston Regional Office.
- B. The system shall be calibrated with the mid-level calibration standard daily excluding weekends and holidays and corrective action taken when the mid-level calibration varies more than 10% of the certified cylinder, as specified in Performance Specifications No. 9, 40 CFR Part 60, Appendix B. Calibration is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of NSPS or National Emission Standards for Hazardous Air Pollutants (NESHAPS), in which case span shall be done daily without exception. The monitor will have a cylinder gas audit (CGA) performed at least quarterly. The procedures followed during the CGA shall comply with the requirements of 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2. The quarterly CGA performed each calendar quarter replaces the annual RATA. For non-NSPS sources, an equivalent method approved by the TCEQ may be used.
- C. The CEMS monitoring data will be reduced to hourly average concentrations at least once every week, using a minimum of four equally spaced data points from each one-hour period. At least 23 hourly averages shall be generated per day. Flow rates used to convert ppmvd to mass emission rates in pounds per hour may be obtained from calculations based on the incinerator's exhaust stack flow rate and firing rate. The individual average concentrations shall be reduced to units of the permit allowable emission rate in pounds per hour at least once every week demonstrating compliance with Special Condition No. 1.
- D. This condition does not preempt the reporting requirement of 30 TAC §§ 101.201 and 101.211 pertaining to process upsets and maintenance.
- E. During all periods of operation when the VOC CEMS is out of service, the incinerator operation shall be based on the inlet temperature.
- F. All cylinder gas exceedances of ± 15 percent accuracy and any unscheduled CEMS downtime shall be reported to the TCEQ Regional Director, and necessary corrective action shall be taken. Unscheduled CEMS downtime is any CEMS downtime not required for daily calibration checks and annual relative accuracy test audits. Supplemental stack concentration measurements may be required at the discretion of the TCEQ Regional Director.

Special Conditions

Permit Numbers 19027 and N296

Page 20

- G. For NSPS sources subject to Appendix F, the TCEQ Regional Office shall be notified at least 30 days prior to each annual relative accuracy testing audit in order to provide them the opportunity to observe the testing.
29. The Catalytic Incinerator (EPN 1796-06G) inlet temperature shall not be less than the temperature established during performance testing to demonstrate 98.0 weight percent destruction efficiency of VOCs or an exhaust VOC concentration at or less than 20.0 parts per million by volume on a dry basis (ppm_{vd}), except during start-up, shutdown and product campaign changes. The minimum inlet temperature established during performance testing shall be kept in a document at the plant site. The incinerator inlet temperature shall be continuously monitored with hourly averages recorded. The daily average of the inlet temperature shall be calculated as the average of all validated data values of the inlet temperature during the operating day.
30. Visible emissions from the Catalytic Incinerator Exhaust Stack [Emission Point No. (EPN) 1796-06G] shall not exceed 5 percent opacity averaged over a six-minute period, as determined by the EPA reference Method 9, except for those periods described in Title 30 Texas Administrative Code (30 TAC) § 111.111(a)(1)(E).
31. Fuel for operating the catalytic incinerator is limited to pipeline-quality, sweet natural gas containing no more than 0.25 grain hydrogen sulfide and 5 grains total sulfur per 100 dry standard cubic feet. Use of any other fuel for normal operations or standby purposes requires a permit amendment and approval from the Executive Director of the TCEQ.

Recordkeeping Requirements

32. The holder of this permit shall keep records of the initial performance test of the Catalytic Incinerator (EPN 1796-06G). After the initial determination of compliance, the holder of this permit shall maintain a raw data file of all CEMS measurements, including CEMS performance testing measurements, all CEMS calibration checks and adjustments and maintenance performed on these systems, or measurements of operating conditions monitored, identified in the monitoring plan. This data shall be maintained in a permanent form suitable for inspection for at least the last five years by TCEQ personnel or any local air pollution control having jurisdiction. The CEMS data will be used by TCEQ personnel to determine compliance with permit conditions.
33. The permit holder shall comply with the reporting and recordkeeping requirements of 40 CFR § 60.7. Such reports are required for each emission unit required to be continuously monitored pursuant to Special Condition No. 28. Each report shall contain the hours of facility operation, a report summary of the periods of noncomplying emissions, and CEMS downtimes by cause in addition to the information specified in 40 CFR § 60.7(c).

Back-Up Control Scenario

34. During periods when the Catalytic Incinerator (EPN 1796-06G) is not in operation, all process vents normally routed to the Incinerator shall be routed to Flare FS-541 (EPN 1796-10A), except for authorized MSS activities associated with EPNs 1796-18A and/or 1796-18B. This scenario shall be limited to no more than 3,120 hours per year. Records of the occurrence and duration of this scenario and all associated emissions shall be maintained in a permanent form suitable for inspection for at least the last five years by TCEQ personnel or any local air pollution control having jurisdiction.

Offsets for 2020 Flare Amendment (TCEQ Project No. 317776)

35. This Nonattainment New Source Review (NNSR) permit is issued/approved based on the requirement that the permit holder offset the project emission increase for facilities authorized by NSR Permit Nos. 1504A, 2462C, 37063, 19027, and 46305 prior to the commencement of operation, through participation in the TCEQ Emission Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H.
- A. The permit holder shall use 20.0 tpy of NO_x credits to offset the 16.60 tpy NO_x project emission increase for the facilities authorized by this permit at a ratio of 1.2 to 1.0
- B. The permit holder shall use 15.0 tons per year (tpy) of NO_x emission reduction credits (ERCs) from TCEQ Certificate No. 3667, 4.1 tons per year from TCEQ Certificate No. 3668, and 0.9 tons per year from TCEQ Certificate No. 3720 to offset the NO_x project emission increase for facilities authorized by TCEQ NSR Project No. 317776. **(6/22)**

Referenced Authorizations

36. The following sources and/or activities are authorized under a PBR by 30 TAC Chapter 106. These lists are not intended to be all inclusive and can be altered without modifications to this permit.

| Authorization | Source or Activity |
|----------------------|--|
| PBR 110925 | Fugitive emissions associated with isolation valves installation |
| PBR 118637 | Fugitive emissions due to annual registration |
| PBR 131970 | Fugitive emissions associated with PSV-7100 area piping modification |
| PBR 139753 | Fugitive emissions due to annual registration |

Projected Actual Emissions (PAE) Monitoring

37. The updated federal new source review applicability representation for the previous TCEQ NSR Project No. 299932 application, submitted in PI-1 dated September 19, 2022, TCEQ NSR Project No. 347903, was determined not to be subject to federal new source review for VOC through the use of projected actual emission rates for an affected source (Cooling Tower, EPN 1796-13A) in Project No. 299932. Actual emissions of VOC from the Cooling Tower (EPN 1796-13A) shall be monitored as represented in the application and records maintained, and reports provided in accordance with 30 TAC §116.127 for a period of five years following resumption of regular operations after the change. Records shall include the date of resumption of regular operations after the project change. **(11/22)**

| Source Facility | EPN | Pollutant(s) | Projected Actual Emissions, (tons/year) | Monitoring Special Conditions | Maintain Records (Years) |
|------------------------|------------|---------------------|--|--------------------------------------|---------------------------------|
| Cooling Tower | 1796-13A | VOC | 2.90 | 15 | 5 |

Special Conditions

Permit Numbers 19027 and N296

Page 22

38. Within the time frame specified in Special Condition No. 37, if the projected actual emissions rate of the cooling tower exceeds 2.90 tpy of VOC, the permit holder shall update the original federal new source review applicability representations in TCEQ NSR Project No. 299932. **(11/22)**

Consent Decree Requirements (These conditions will survive termination of the Consent Decree)

39. Installation and Operation of Monitoring and Control Systems on Flare FS-541 (EPN 1796-10A). **(9/23)**
- A. The plant site must install and commence operation of the instrumentation, controls, and monitoring systems set forth in Special Conditions 40–43 for the following Flare: Flare FS-541 (EPN 1796-10A) except for Newly Installed Covered Flares and Portable Flares installed after June 2, 2022.
 - B. The plant site must operate the instrumentation, controls, and monitoring systems for Flare FS-541 (EPN 1796-10A) in accordance with Special Conditions 45-47.
 - C. Newly Installed Covered Flares and Portable Flares. By no later than the date that any Newly Installed Covered or Portable Flare is In Operation and Capable of Receiving Waste, Supplemental, and/or Sweep Gas, the plant site must have in place and commence operation of the instrumentation, controls, and monitoring systems set forth in Special Conditions 40–43, as specified for Steam-Assisted Flares and Air-Assisted Flares. The plant site must operate the instrumentation, controls, and monitoring systems for Newly Installed Covered Flares and Portable Flares installed after June 2, 2022 in accordance with Special Conditions 40–43 during all times when the Flare is In Operation and Capable of Receiving Waste, Supplemental, and/or Sweep Gas.
40. Vent Gas, Assist Steam, and Assist Air Monitoring Systems. **(9/23)**
- A. For Flare FS-541 (EPN 1796-10A), the plant site must install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of Vent Gas in the header or headers feeding Flare FS-541 (EPN 1796-10A). This system must also be able to continuously analyze pressure and temperature at each point of Vent Gas flow measurement. Different flow monitoring methods may be used to measure different gaseous streams that make up the Vent Gas provided that the flow rates of all gas streams that contribute to the Vent Gas are determined. Flow must be calculated in scfm.
 - B. For Steam-Assisted Flare FS-541 (EPN 1796-10A), the plant site must install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of Assist Steam used with Steam-Assisted Flare FS-541 (EPN 1796-10A). This system must also be able to continuously analyze the pressure and temperature of Assist Steam at a representative point of steam flow measurement. Flow must be calculated in scfm.
 - C. For each Air-Assisted Flare, the plant site must install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the volumetric flow rate of Assist Air used with each Air-Assisted Flare. If premix assist air and Perimeter Assist Air are both used, the plant site must install, operate, calibrate, and maintain a monitoring system capable of separately continuously measuring, calculating, and

recording the volumetric flow rate of premix assist air and Perimeter Assist Air used with that Flare. Continuously monitoring fan speed or power and using fan curves is an acceptable method for continuously monitoring Assist Air flow rates.

- D. Each flow rate monitoring system (whether for a Steam-Assisted Flare or an Air-Assisted Flare) must be able to correct for the temperature and pressure of the system and output parameters in Standard Conditions.
 - E. In lieu of a monitoring system that directly measures volumetric flow rate, the plant site may choose from the following additional options for monitoring any gas stream:
 - (1) Mass flow monitors may be used for determining the volumetric flow rate of Assist Steam provided that the plant site converts the mass flow rates to volumetric flow rates pursuant to the methodology in Step 2 of Appendix 1.2;
 - (2) Mass flow monitors may be used for determining the volumetric flow rate of Vent Gas, provided the plant site determines the molecular weight of such Vent Gas using compositional analysis data collected pursuant to the monitoring method specified in Special Condition 43.A and provided that the plant site converts the mass flow rates to volumetric flow rates pursuant to the methodology in Step 2 of Appendix 1.2; and
 - (3) Continuous pressure/temperature monitoring system(s) and appropriate engineering calculations may be used in lieu of a continuous volumetric flow monitoring system provided the molecular weight of the gas is known and provided the plant site complies with the methodology in Step 2 of Appendix 1.2 for calculating volumetric flow rates. For Vent Gas, the plant site must determine molecular weight using compositional analysis data collected pursuant to the monitoring method specified in Special Condition 43.A.
41. Assist Steam Control Equipment. The plant site must install and commence operation of equipment, including, as necessary, main and trim control valves and piping which enables the plant site to control Assist Steam flow to Steam-Assisted Flare FS-541 (EPN 1796-10A) in a manner sufficient to ensure compliance with these provisions. **(9/23)**
42. Video Camera. The plant site must install and commence operation of a video camera that is capable of monitoring and recording, in digital format, the flame of and any Smoke Emissions from Flare FS-541 (EPN 1796-10A). It is not a violation of this Special Condition or Special Condition 46, however, if a Flare video camera cannot discern the Flare Combustion Zone and/or any Smoke Emissions at Flare FS-541 (EPN 1796-10A) subject to these provisions during periods of weather conditions such as fog or snow, provided that recordings are created and retained during these time periods. **(9/23)**
43. Vent Gas Compositional Monitoring or Direct Monitoring of Net Heating Value of Vent Gas. For Flare FS-541 (EPN 1796-10A), the plant site must either determine the concentration of individual components in the Vent Gas or directly monitor the Net Heating Value of the Vent Gas (NHVvg) in compliance with one of the methods specified in this Special Condition. The plant site may elect to use different monitoring methods (of the methods provided in this Special Condition) for different gaseous streams that make up the Vent Gas, provided the composition or Net Heating Value of all gas streams that contribute to the Vent Gas are determined. The plant site must: **(9/23)**
- A. Install, operate, calibrate, and maintain a monitoring system capable of continuously measuring (*i.e.*, at least once every 15 minutes), calculating, and recording the individual component concentrations present in the Vent Gas; or
 - B. Install, operate, calibrate, and maintain a calorimeter capable of continuously measuring (*i.e.*, at least once every 15 minutes), calculating, and recording the NHVvg at Standard

Conditions. If the plant site elects this method, the plant site may install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the hydrogen concentration in the Vent Gas. The sample extraction point of the calorimeter may be located upstream of the introduction of Supplemental Gas or Sweep Gas or Purge Gas if the composition and flow rate of all such downstream gas(es) is known, and if these known values are then used in the calculation of the Net Heating Value of Vent Gas.

- C. If the plant site elects the method in Special Condition 43.B above, and the Net Heating Value of the Vent Gas exceeds the upper calibrated span of the calorimeter on Flare FS-541 (EPN 1796-10A), then the plant site must use the value of the upper calibrated span of that calorimeter for calculating the NHVvg at Standard Conditions until the Net Heating Value of the Vent Gas returns to within the measured calibrated span. Use of this method will not constitute instrument system downtime for the period of time that the Net Heating Value of the Vent Gas exceeds the upper calibrated span of the calorimeter.
 - D. Direct compositional or Net Heating Value monitoring is not required for purchased ("pipeline quality") natural gas streams. The Net Heating Value of purchased natural gas streams may be determined using annual or more frequent grab sampling at any one representative location. Alternatively, the Net Heating Value of any purchased natural gas stream can be assumed to be 920 BTU/scf.
44. Instrumentation and Monitoring Systems: Optional Equipment. To continuously measure and calculate flow of all Pilot Gas to Flare FS-541 (EPN 1796-10A), in scfm, the plant site, at its option, may either: a) install (if not already installed) an instrument, or b) use a restriction orifice and pressure measurements. The plant site may use the data generated by this instrument or restriction orifice as part of the calculation of the Net Heating Value of the Combustion Zone Gas. **(9/23)**
45. Instrumentation and Monitoring Systems: Specifications, Calibration, Quality Control, and Maintenance. The plant site must comply with Special Conditions 45.A through 45.E, provided, however, the plant site may elect instead to utilize exemptions set forth in 40 C.F.R. § 63.1103(e)(4)(i) through (ix). **(9/23)**
- A. The instrumentation and monitoring systems identified in Special Conditions 40 and 43 must:
 - (1) Meet or exceed all applicable minimum accuracy, calibration and quality control requirements specified in Table 13 of 40 C.F.R. Part 63, Subpart CC;
 - (2) Have an associated readout (*i.e.*, a visual display or record) or other indication of the monitored operating parameter that is readily accessible onsite for operational control or inspection by the plant site;
 - (3) Be capable of measuring the appropriate parameter over the range of values expected for that measurement location; and
 - (4) Have an associated data recording system with a resolution that is equal to or better than the required instrumentation/system accuracy.
 - B. The plant site must operate, maintain, and calibrate each instrument and monitoring system identified in Special Conditions 40 and 43 according to a monitoring plan that contains the information listed in 40 C.F.R. § 63.671(b)(1)-(5). However, if the plant site is determining NHVcz using a process mass spectrometer, the plant site may use the methods established for determining NHVcz in the February 5, 2018 letter to representatives of Extrel CMS, LLC and AMETEK, Energy and Process Division from Steffan M. Johnson, Group Leader, Measurement Technology Group, Office of Air Quality Planning and Standards (attached as Appendix 2.1) in lieu of complying with 40 C.F.R. § 63.671(b)(1)-(5)'s requirements for determining NHVcz using Gas Chromatographs.

- C. All gas chromatograph monitoring systems used to comply with Special Condition 43.A must also meet the requirements of 40 C.F.R. § 63.671(e)(1) through (3) (Additional Requirements for Gas Chromatographs) regardless of whether the Gas Chromatographs are complying with 40 C.F.R. § 63.671(e)(1)-(3) or the methods outlined in Appendix 2.1.
 - D. For each instrumentation and monitoring system required by Special Conditions 40 and 43, the plant site must comply with the out-of- control procedures described in 40 C.F.R. § 63.671(c)(1) and (2), and with the data reduction requirements specified in 40 C.F.R. § 63.671(d)(1) through (3).
 - E. The language in 40 C.F.R. § 63.671, Table 13 of 40 C.F.R. Part 63, Subpart CC, or in any regulatory provision cross-referenced in 40 C.F.R. § 63.671 or Table 13 of 40 C.F.R. Part 63, Subpart CC, that limits the applicability of these regulatory requirements to periods when “regulated material” (as defined in 40 C.F.R. § 63.641) is routed to a Flare, is not applicable for purposes of this Permit. In addition, for purposes of this Permit, the language in 40 C.F.R. § 63.671, Table 13 of 40 C.F.R. Part 63, Subpart CC, or in any regulatory provision cross-referenced in 40 C.F.R. § 63.671 or Table 13 of 40 C.F.R. Part 63, Subpart CC, that refers to a continuous parametric monitoring system will instead be read to refer to the instrumentation and monitoring systems required by Special Conditions 40 and 43.
46. Instrumentation and Monitoring Systems: Recording and Averaging Times. The instrumentation and monitoring systems identified in Special Conditions 40 and 42-43 must be able to produce and record data measurements and calculations for each parameter at the following time intervals:
(9/23)

| <u>Instrumentation and Monitoring System</u> | <u>Recording and Averaging Times</u> |
|--|--|
| Vent Gas, Assist Steam Flow, Assist Air Flow, and (if installed) Pilot Gas Flow Monitoring Systems | Measure continuously and record 15-minute block averages |
| Vent Gas Compositional Monitoring (if using the methodology in Special Condition 43.A.) | Measure no less than once every 15 minutes and record that value |
| Vent Gas Net Heating Value Analyzer (if using the methodology in Special Condition 43.B.) | Measure continuously and record 15-minute block averages |
| Video Camera | Record at a rate of no less than 4 frames per minute |

The term “continuously” means to make a measurement as often as the manufacturer’s stated design capabilities of the flow monitors (for Vent Gas, Assist Steam, Assist Air, and (if installed) Pilot Gas) and the Vent Gas Net Heating Value Analyzers during each fifteen (15) minute block period, but in no case shall the flow monitors or the Vent Gas Net Heating Value Analyzers make less than one measurement in each fifteen (15) minute block period. The measurement results are then averaged and recorded to represent each fifteen (15) minute block period. Nothing in this Special Condition prohibits the plant site from setting up process control logic that uses different averaging times from those in this table, provided that the recording and averaging times in this table are available and used for determining compliance with this Permit.

47. Instrumentation and Monitoring Systems: Operation. The plant site must operate each of the instruments and monitoring systems required by Special Conditions 40 and 42-43 and collect data on a continuous basis when the Flare that the instrument and/or monitoring system is associated with is In Operation and Capable of Receiving Sweep, Supplemental, and/or Waste Gas, except for: a) the periods of Instrument Downtime specified in Special Conditions 53.A-53.D. **(9/23)**

Flare Combustion Efficiency

48. General Emission Standards Applicable to Flare FS-541 (EPN 1796-10A). The plant site must comply with the requirements set forth in this Special Condition at Flare FS-541 (EPN 1796-10A) at all times when Flare FS-541 (EPN 1796-10A) is In Operation. **(9/23)**
- A. Operation during Emissions Venting. The plant site must operate Flare FS-541 (EPN 1796-10A) at all times when emissions may be vented to it.
 - B. No Visible Emissions. The plant site must specify the smokeless design capacity of each Flare and operate with no Visible Emissions when Flare FS-541 (EPN 1796-10A) is In Operation and the Vent Gas flow is less than the smokeless design capacity of Flare FS-541 (EPN 1796-10A), the plant site must monitor, as specified below in sub-Special Conditions 48.B.(1) or 48.B.(2) for Visible Emissions from Flare FS-541 (EPN 1796-10A) while it is In Operation. An initial Visible Emissions demonstration must be conducted using an observation period of 2 hours using Method 22 at 40 C.F.R. Part 60, Appendix A-7. Subsequent Visible Emissions observations must be conducted using either method listed in sub-Special Conditions 48.B.(1) or 48.B.(2) The plant site must record and report any instances where Visible Emissions are observed for more than 5 minutes during any 2 consecutive hours as specified in 40 C.F.R. § 63.655(g)(11)(ii).
 - (1) At least once per Day, the plant site must conduct Visible Emissions observations using an observation period of 5 minutes using Method 22 at 40 C.F.R. Part 60, Appendix A-7. If at any time the plant site Visible Emissions are observed, even if the minimum required daily Visible Emission monitoring has already been performed, the plant site must immediately begin an observation period of 5 minutes using Method 22 at 40 C.F.R. Part 60, Appendix A-7. If Visible Emissions are observed for more than one continuous minute during any 5-minute observation period, the observation period using Method 22 at 40 C.F.R. Part 60, Appendix A-7 must be extended to 2 hours or until 5 minutes of Visible Emissions are observed.
 - (2) Alternatively, the plant site may use a video surveillance camera to continuously record (at least one frame every 15 seconds with time and date stamps) images of the Flare flame at a reasonable distance above the Flare flame and at an angle suitable for Visible Emissions observations. The plant site must provide real-time video surveillance camera output to the control room or other continuously staffed location where the camera images may be viewed at any time.
 - C. Pilot Flame Presence. The plant site must operate Flare FS-541 (EPN 1796-10A) with a pilot flame present at all times. The plant site must continuously monitor the presence of the pilot flame(s) using a device (including, but not limited to, a thermocouple, ultraviolet beam sensor, or infrared sensor) capable of detecting that the pilot flame is present.
 - D. Monitoring According to Applicable Provisions. The plant site must comply with all applicable Subparts of 40 C.F.R. Parts 60, 61, or 63 except as provided in Special Condition 51.
 - E. Good Air Pollution Control Practices. The plant site must at all times, including during periods of startup, shutdown, and/or Malfunction, implement good air pollution control practices to minimize emissions from Flare FS-541 (EPN 1796-10A). Nothing in this sub-Special Condition 48.E requires the plant site to install or maintain Flare monitoring equipment in addition to or different from the equipment required by this Permit.
49. Flare Tip Velocity or Vtip. The plant site must operate Flare FS-541 (EPN 1796-10A) in compliance with either sub-Special Condition 49.A. or 49.B. below, provided that the appropriate monitoring systems are in place, whenever the Vent Gas flow rate is less than the smokeless design capacity of Flare FS-541 (EPN 1796-10A). **(9/23)**

Special Conditions

Permit Numbers 19027 and N296

Page 27

- A. The actual Flare Tip Velocity (Vtip) must be less than 60 feet per second. The plant site must monitor Vtip using the procedures specified in Appendix 1.2, or
 - B. Vtip must be less than 400 feet per second and also less than the maximum allowed Flare Tip Velocity (Vmax) as calculated according to Equation 11 in Appendix 1.2. The plant site must monitor Vtip and gas composition, and must determine NHVvg using the procedures specified in Appendix 1.2. The Unobstructed Cross Sectional Area of the Flare Tip must be calculated consistent with Appendix 1.3.
50. Operation According to Design. The plant site must operate and maintain Flare FS-541 (EPN 1796-10A) in accordance with its design and the requirements of this Permit. **(9/23)**
51. Net Heating Value Standards. The plant site must comply with the following Net Heating Value standards, except as provided in Special Conditions 53 (Standard During Instrument Downtime). **(9/23)**
- A. Net Heating Value of Combustion Zone Gas (NHVcz) for Flare FS-541 (EPN 1796-10A). At any time a Flare is In Operation, the plant site must operate Flare FS-541 (EPN 1796-10A) so as to maintain the NHVcz at or above 270 BTU/scf, as determined on a 15-minute block period basis when Waste Gas is routed to Flare FS-541 (EPN 1796-10A) for at least 15 minutes. The plant site must monitor and calculate NHVcz at Flare FS-541 (EPN 1796-10A) in accordance with Appendix 1.2.
 - B. Dilution Operating Limits for Flare FS-541 (EPN 1796-10A) with Perimeter Assist Air (NHVdil). While each Air-Assisted Flare is In Operation, the plant site must maintain the Net Heating Value Dilution parameter (NHVdil) at or above 22 BTU/square foot determined on a 15-minute block period basis, when Waste Gas is routed to the Flare for at least 15 minutes. The plant site must monitor and calculate NHVdil at each Flare that is actively receiving Perimeter Assist Air in accordance with Appendix 1.2.
52. 98% Combustion Efficiency. The plant site must operate Flare FS-541 (EPN 1796-10A) with a minimum of a 98% Combustion Efficiency at all times when Waste Gas is vented to the flares. To demonstrate continuous compliance with the 98% Combustion Efficiency, the plant site must operate each Steam-Assisted Flare in compliance with Special Condition 51.A and each Air-Assisted Flare in compliance with Special Conditions 51.A and 51.B. **(9/23)**
53. Standard During Instrument Downtime. If one or more of the following conditions (collectively referred to as "Instrument Downtime") is present and renders the plant site incapable of operating Flare FS-541 (EPN 1796-10A) in accordance with the applicable NHV standards in Special Condition 51, the plant site must operate Flare FS-541 (EPN 1796-10A) in accordance with good air pollution control practices so as to minimize emissions and ensure good combustion efficiency at Flare FS-541 (EPN 1796-10A): **(9/23)**
- A. Malfunction of an instrument needed to meet the requirement(s);
 - B. Repairs following Malfunction of an instrument needed to meet the requirement(s);
 - C. Recommended scheduled maintenance of an instrument in accordance with the manufacturer's recommended schedule, for an instrument needed to meet the requirement(s); and/or
 - D. Quality Assurance/Quality Control activities on an instrument needed to meet the requirement(s).

Special Conditions

Permit Numbers 19027 and N296

Page 28

Instrument Downtime must be calculated in accordance with 40 C.F.R. § 60.13(h)(2). In no event must Instrument Downtime exceed 5% of the time in a Semi-Annual Period that Flare FS-541 (EPN 1796-10A) affected by the Instrument Downtime is In Operation. For purposes of calculating the 5%, the time used for NHV Analyzer or gas chromatograph calibration and validation activities may be excluded.

54. Recordkeeping for Flare FS-541 (EPN 1796-10A): Timing and Substance. The plant site must comply with the following recordkeeping requirements: **(9/23)**

A. The plant site must calculate and record each of the following parameters:

- (1) Volumetric flow rates of all gas streams that contribute to the Vent Gas volumetric flow rate (in scfm) (in 15-minute block averages and in accordance with any calculation requirements of Special Conditions 40, 46, and Step 2 of Appendix 1.2);
- (2) Assist Steam volumetric flow rate (in scfm) (in 15-minute block averages and in accordance with any calculation requirements of Special Conditions 40, 46, and Step 2 of Appendix 1.2);
- (3) Assist Air volumetric flow rate (in scfm) (in 15-minute block averages and in accordance with any calculation requirements of Special Conditions 41, 47, and Step 2 of Appendix 1.2);
- (4) NHV_{vg} (in BTU/scf) (in 15-minute block averages in accordance with Step 1 of Appendix 1.2);
- (5) NHV_{dil} (in BTU/ft²) (in 15-minute block averages in accordance with Step 4 of Appendix 1.2); and
- (6) NHV_{cz} (in BTU/scf) (in 15-minute block averages in accordance with Step 3 of Appendix 1.2).

B. For Flare FS-541 (EPN 1796-10A), the plant site must record the duration of all periods of Instrument Downtime for Flare FS-541 (EPN 1796-10A) that exceed 5% of the time in a Semi-Annual Period that Flare FS-541 (EPN 1796-10A) is In Operation. The plant site must record which instrument(s) experienced the downtime, if Flare FS-541 (EPN 1796-10A) was affected by the downtime, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that the plant site took.

C. At any time that the plant site deviates from the emissions standards in Special Conditions 51-53 at Flare FS-541 (EPN 1796-10A), the plant site must record the duration of the deviation, an explanation of the cause(s) of the deviation, and a description of the corrective action(s) that the plant site took.

Date: September 28, 2023

Permit Nos. 19027 and N296

Attachment A

Inherently Low Emitting Activities

| Activity | Emissions | |
|---|-----------|----|
| | VOC | PM |
| Calibration of analytical equipment | x | |
| Catalyst charging/handling | | x |
| Instrumentation/analyzer maintenance | x | |
| Meter proving | x | |
| Replacement of analyzer filters and screens | x | |
| Maintaining sight glasses | x | |

Date: June 11, 2020

Permit Nos. 19027 and N296

Attachment B

Routine Planned Maintenance Activities

The following maintenance activities are authorized by this permit:

- Reactor maintenance
- Filter maintenance
- Drier/Treater maintenance
- Pump repair/replacement
- Fugitive component (valve, pipe, flange, PSV, etc.) repair/replacement
- Compressor repair/replacement
- Heat exchanger repair/replacement
- Vessel repair/replacement
- Instrumentation repair/replacement (> inherently low emitting sources)
- Miscellaneous equipment repair/replacement (e.g. valves, piping, spools, specialty equipment)
- Process vent system maintenance
- Process vent routed to flare during unit outages

Date: June 11, 2020

Permit Nos. 19027 and N296

Attachment C

MSS Activity Summary

| Facility ID | Facility Description | Emission activity | EPN |
|--|---|---|------------|
| see Attachment A | miscellaneous low emitting activities | vent to flare on a voluntary basis if flare control can be readily done | 1796-10A |
| see Attachment A | miscellaneous low emitting activities | vent to atmosphere | 1796-MSS |
| see Attachment B | process unit routine maintenance-equipment opening | vent to atmosphere | 1796-MSS |
| see Attachment B | process unit routine maintenance, component repair or replacement-depressurize, degas and drain | vent to flare | 1796-10A |
| PEU-1796 | Train 1 and/or Train 2 unit shutdown – depressurize, degas and drain | Vent to flare | 1796-10A |
| PEU-1796 | Train 1 and/or Train 2 unit shutdown – equipment opening | Vent to atmosphere | 1796-MSS |
| PEU-1796 | Train 1 and/or Train 2 unit startup | Vent to flare | 1796-10A |
| PEU-1796 | Train 1 Reactor Incinerator Vent for H-550X Maintenance | Vent to atmosphere | 1796-18A |
| PEU-1796 | Train 2 Reactor Incinerator Vent For H-550X Maintenance | Vent to atmosphere | 1796-18B |
| The following activities are authorized until start-up of expanded operations using the RTO (EPN 1796-06H) | | | |
| PEU-1796 | Train 1 Reactor Incinerator Vent for H-549 Maintenance | Vent to atmosphere | 1796-18A |
| PEU-1796 | Train 2 Reactor Incinerator Vent for H-549 Maintenance | Vent to atmosphere | 1796-18B |

Date: June 11, 2020

Permit No. 19027 – Attachment D

Appendix 1.1-1.3 and 2.1

Appendix 1.1 – Incorporated Consent Decree Definitions

The definitions in Appendix 1.1 of Attachment D are only applicable to Special Conditions 39-54 of this permit.

“Air-Assisted Flare” or “Air_{asst}” means a Flare that uses Assist Air to assist in combustion. “Assist Air” means all air that is intentionally introduced before or at a Flare tip through nozzles or other hardware conveyance for the purposes of, including, but not limited to, protecting the design of the Flare tip, promoting turbulence for mixing, or inducing air into the flame. Assist Air includes premix assist air and Perimeter Assist Air. Assist Air does not include surrounding ambient air.

“Assist Steam” means all steam that is intentionally introduced before or at a Flare tip through nozzles or other hardware conveyance for the purposes of, including, but not limited to, protecting the design of the Flare tip, promoting turbulence for mixing, or inducing air into the flame. Assist Steam includes, but is not necessarily limited to, center steam, lower steam, and upper steam.

“Backup Flare” means a Flare that is permanently installed and that receives Waste Gas only when the Waste Gas has been redirected to it from a Covered Flare. “BTU/scf” means British Thermal Unit per standard cubic foot.

“Calendar Quarter” means a three-month period ending on March 31, June 30, September 30, or December 31.

“Capable of Receiving Sweep, Supplemental, and/or Waste Gas” means, for a Flare, that the flow of Sweep Gas, Supplemental Gas, and/or Waste Gas is not prevented from being directed to the Flare by means of an isolation device such as closed valves, blinds, or stopples.

“Cedar Bayou Flares” means the following Steam-Assisted Flares and Air-Assisted Flares located at the Cedar Bayou Plant:

- FS-541 (Steam-Assisted)

“Cedar Bayou Plant” means the petrochemical manufacturing plant owned and operated by the plant site, located at 9500 I-10 East, Baytown, Texas 77521-9570.

“Combustion Efficiency” or “CE” means a Flare’s efficiency in converting the organic carbon compounds found in Combustion Zone Gas to carbon dioxide. Combustion Efficiency must be determined in accordance with the NHVcz calculations in Appendix 1.2.

“Combustion Zone” means the area of the Flare flame where the Combustion Zone Gas combines for combustion.

“Combustion Zone Gas” means all gases and vapors found after the Flare tip. This gas includes all Vent Gas, Pilot Gas, Total Steam, and Assist Air.

“Covered Air-Assisted Flares” means each of the Flares that are Air-Assisted Flares.

“Covered Flare” or “Covered Flares” means each of the following Flares, as well as any Newly Installed Covered Flare, Portable Flare, or Backup Flare in use at the plant, provided however that once a Covered

Attachment D

Permit Numbers 19027 and N296

Page 2

Flare is permanently taken out of service and that change is reported in the subsequent Semi-Annual Report, that Flare is no longer a Covered Flare:

- Flare: FS-541 (EPN 1796-10A).

“Covered Steam-Assisted Flares” means each of the Covered Flares that are Steam-Assisted Flares.

“Day” means a calendar day unless expressly stated to be a business day. In computing any period of time for a compliance deadline, where the last day would fall on a Saturday, Sunday, or federal or state holiday, the period will run until the close of business of the next business day.

“External Utility Loss” means a loss in the supply of electrical power or other third-party utility to a Covered Plant that is caused by actions occurring outside the boundaries of a Covered Plant, excluding utility losses due to an interruptible utility service agreement.

“Flare” means a combustion device lacking an enclosed combustion chamber that uses an uncontrolled volume of ambient air to burn gases.

“Flare Tip Velocity” or “Vtip” means the velocity of gases exiting the Flare tip as defined in Special Condition 49.

“In Operation,” with respect to a Flare, means all times that Sweep, Supplemental, or Waste Gas is or may be vented to a Flare. A Flare that is In Operation is Capable of Receiving Sweep, Supplemental, or Waste Gas unless all Sweep, Supplemental, and Waste Gas flow is prevented by means of an isolation device such as closed valves, blinds, and/or stopples.

“Malfunction” means, as specified in 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions.

“Monitoring System Malfunction” means any sudden, infrequent, and not reasonably preventable failure of instrumentation or a monitoring system to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Monitoring System Malfunctions.

“MMSCFD” or “mmscfd” means million standard cubic feet per Day.

“MMSCFH” or “mmscfh” means million standard cubic feet per hour.

“MSCFH” of “mscfh” means thousand standard cubic feet per hour.

“Net Heating Value” or “NHV” means the theoretical total quantity of heat liberated by the complete combustion of a unit volume or weight of a fuel initially at 25 degrees Centigrade and 760 mmHg, assuming that the produced water is vaporized and all combustion products remain at, or are returned to, 25 degrees Centigrade; however, the standard for determining the volume corresponding to one mole is 20 degrees Centigrade.

“Net Heating Value Analyzer” or “NHV Analyzer” means an instrument capable of measuring the Net Heating Value of Vent Gas in BTU/scf. The sample extraction point of a Net Heating Value Analyzer may be located upstream of the introduction of Supplemental Gas and/or Sweep Gas and/or Purge Gas if the composition and flow rate of any such Supplemental Gas and/or Sweep Gas and/or Purge Gas is known and if this known value then is used in the calculation of the Net Heating Value of the Vent Gas.

Attachment D

Permit Numbers 19027 and N296

Page 3

"Net Heating Value of Combustion Zone Gas" or "NHVcz" means the Net Heating Value, in BTU/scf, of the Combustion Zone Gas in a Flare. NHVcz must be calculated in accordance with Step 3 of Appendix 1.2.

"Net Heating Value of Dilution" or "NHVdil" means the Net Heating Value, in BTU/ft², of the dilution zone gas in a Flare. NHVdil must be calculated in accordance with Step 4 of Appendix 1.2.

"Net Heating Value of Vent Gas" or "NHVvg" means the Net Heating Value, in BTU/scf, of the Vent Gas directed to a Flare. NHVvg must be calculated in accordance with Step 1 of Appendix 1.2.

"Newly Installed Covered Flare(s)" means any Flare (including any Backup Flare) that is permanently installed, receives Waste Gas that has been redirected to it from Flare FS-541 (EPN 1796-10A).

"Perimeter Assist Air" means the portion of Assist Air introduced at the perimeter of the Flare tip or above the Flare tip. Perimeter Assist Air includes air intentionally entrained in lower and upper steam. Perimeter Assist Air includes all Assist Air except pre-mix assist air.

"Pilot Gas" means gas introduced into a Flare tip that provides a flame to ignite the Vent Gas.

"Portable Flare" means any Flare that is not permanently installed and that receives Waste Gas that has been redirected to it from Flare FS-541 (EPN 1796-10A).

"Prevention Measure" means an instrument, device, piece of equipment, system, process change, physical change to process equipment, procedure, or program to minimize or eliminate flaring.

"Purge Gas" means the gas introduced between a Flare header's water seal and the Flare tip to prevent oxygen infiltration (backflow) into the Flare tip. For a Flare with no water seal, the function of Purge Gas is performed by Sweep Gas, and therefore, by definition, such a Flare has no Purge Gas.

"Smoke Emissions" shall have the definition set forth in Section 3.5 of Method 22 of 40 C.F.R. Part 60, Appendix A. Smoke Emissions may be either documented by a video camera or determined by an observer knowledgeable with respect to the general procedures for determining the presence of Smoke Emissions per Method 22.

"Standard Conditions" means a temperature of 68 degrees Fahrenheit and a pressure of 1 atmosphere. Unless otherwise expressly set forth in this Consent Decree or an Appendix, Standard Conditions apply.

"Steam-Assisted Flare" means a Flare that uses Assist Steam to assist in combustion.

"Supplemental Gas" means all gas introduced to a Flare in order to improve the combustible characteristics of the Combustion Zone Gas.

"Sweep Gas" means:

1. For a Flare with an FGRS: Gas intentionally introduced into a Flare header system to prevent oxygen buildup in the Flare header. Sweep Gas in these Flares is introduced prior to and recovered by the FGRS.
2. For a Flare without an FGRS: Gas intentionally introduced into a Flare header system to maintain a constant flow of gas through the Flare header and out the Flare tip in order to prevent oxygen building in the Flare header and to prevent infiltration (backflow) into the Flare tip.

Attachment D

Permit Numbers 19027 and N296

Page 4

“Total Steam” means the total of all steam that is supplied to a Flare and includes, but is not limited to, lower steam, center steam, and upper steam.

“Turnaround” means a complete shutdown of any emission unit to: (1) perform necessary cleaning and repairs; (2) perform required tests and internal inspections; and/or (3) install any modifications or additions, or make preparations necessary for a future modification or addition.

“Unassisted Flare” means a Flare that does not use Assist Steam or Assist Air.

“Unobstructed Cross Sectional Area of the Flare Tip” or “ $A_{tip-unob}$ ” means the open, unobstructed area of a Flare tip through which Vent Gas and center steam pass. Diagrams of four common Flare types are set forth in Appendix 1.3 together with the equations for calculating the $A_{tip-unob}$ of these four types.

“Vent Gas” means all gas found just before the Flare tip. This gas includes all Waste Gas, that portion of Sweep Gas that is not recovered, Purge Gas, and Supplemental Gas, but does not include Pilot Gas, Total Steam, or Assist Air.

“Visible Emissions” means five minutes or more of Smoke Emissions during any two consecutive hours.

“Waste Gas” means the mixture of all gases from facility operations that is directed to a Flare for the purpose of disposing of the gas. “Waste Gas” does not include gas introduced to a Flare exclusively to make it operate safely and as intended; therefore, “Waste Gas” does not include Pilot Gas, Total Steam, Assist Air, or the minimum amount of Sweep Gas and Purge Gas that is necessary to perform the functions of Sweep Gas and Purge Gas. “Waste Gas” also does not include the minimum amount of gas introduced to a Flare to comply with regulatory and/or enforceable permit requirements regarding the combustible characteristics of Combustion Zone Gas; therefore, “Waste Gas” does not include Supplemental Gas. Depending upon the instrumentation that monitors Waste Gas, certain compounds (hydrogen, nitrogen, oxygen, carbon dioxide, carbon monoxide, and/or water (steam)) that are directed to a Flare for the purpose of disposing of these compounds may be excluded from calculations relating to Waste Gas flow. The circumstances in which such exclusions are permitted are specifically identified in Section V (Compliance Requirements).

Permit Nos. 19027 – Attachment D

Appendix 1.2 - Calculating Combustion Efficiency, Net Heating Value of the Combustion Zone Gas (NHVcz), the Net Heating Value Dilution Parameter (NHVdil), and Flare Tip Velocity

All abbreviations, constants, and variables are defined in the Key on Page 11 of this appendix.

Combustion Efficiency Equation:

$$CE = \frac{[CO_2]}{[CO_2] + [CO] + [OC]}$$

where:

$[CO_2]$ = Concentration in volume percent or ppm-meters of carbon dioxide in the combusted gas immediately above the Combustion Zone

$[CO]$ = Concentration in volume percent or ppm-meters of carbon monoxide in the combusted gas immediately above the Combustion Zone

$[OC]$ = Concentration in volume percent or ppm-meters of the sum of all organic carbon compounds in the combusted gas immediately above the Combustion Zone, counting each carbon molecule separately where the concentration of each individual compound is multiplied by the number of carbon atoms it contains before summing (e.g., 0.1 volume percent ethane shall count as 0.2 percent OC because ethane has two carbon atoms)

For purposes of using the *CE* equation, the unit of measurement for CO₂, CO, and OC must be the same; that is, if “volume percent” is used for one compound, it must be used for all compounds. “Volume percent” cannot be used for one or more compounds and “ppm-meters” for the remainder.

Step 1: Determine the Net Heating Value of the Vent Gas (NHVvg)

The plant site shall determine the Net Heating Value of the Vent Gas (NHVvg) based on composition monitoring data on a 15-minute block average basis according to the following requirements. If the plant site monitors separate gas streams that combine to comprise the total Vent Gas flow to Flare FS-541 (EPN 1796-10), the 15-minute block average Net Heating Value shall be determined separately for each measurement location according to the following requirements and a flow-weighted average of the gas stream Net Heating Values shall be used to determine the 15-minute block average Net Heating Value of the cumulative Vent Gas. The NHVvg 15-minute block averages shall be calculated for set 15-minute time periods starting at 12 midnight to 12:15 AM, 12:15 AM to 12:30 AM and so on, concluding at 11:45 PM to midnight.

Step 1a: Equation or Output to be Used to Determine NHVvg at a Measurement Location

For any gas stream for which the plant site complies with Special Condition 43 by collecting compositional analysis data in accordance with the method set forth in 43.A: Equation 1 shall be used to determine the NHVvg of a specific sample by summing the Net Heating Value for each individual component by individual component volume fractions. Individual component Net Heating Values are listed in Table 1 of this Appendix.

Equation 1

For any gas stream for which the plant site complies with Paragraph 43 by collecting direct Net Heating Value monitoring data in accordance with the method set forth in 43.B but for which a Hydrogen Concentration Monitor is not used: Use the direct output (measured value) of the monitoring system(s) (in BTU/scf) to determine the NHVvg for the sample.

For any gas stream for which the plant site complies with Paragraph 43 by collecting direct Net Heating Value monitoring data in accordance with the method set forth in 43.B and for which a Hydrogen Concentration Monitor is also used: Equation 2 shall be used to determine the NHVvg for each sample measured via the Net Heating Value monitoring system. Where hydrogen concentration data is collected, Equation 2 performs a net correction for the measured heating value of hydrogen since the theoretical Net Heating Value for hydrogen is 274 Btu/scf, but for the purposes of this permit, a Net Heating Value of 1,212 Btu/scf may be used ($1,212 - 274 = 938$ BTU/scf).

Equation 2

Step 1b: Calculation Method to be Used in Applying Equation/Output to Determine NHVvg

For Flare FS-541 for which the plant site complies with Paragraph 43 by using a continuous monitoring system in accordance with the method set forth in 43.A or 43.B: The plant site may elect to determine the 15-minute block average NHVvg using either the Feed- Forward Calculation Method or the Direct Calculation Method (both described below). The plant site need not elect to use the same methodology at all Flares with a continuous monitoring system; however, for each such Flare, the plant site must elect one calculation method that will apply at all times, and use that method for all continuously monitored flare vent streams associated with that Flare. If the plant site intends to change the calculation method that applies to a Flare, the plant site must notify the EPA 30 Days in advance of such a change.

Feed-Forward Calculation Method. When calculating NHVvg for a specific 15-minute block:

1. Use the results from the first sample collected during an event (for periodic Vent Gas flow events) for the first 15-minute block associated with that event.
2. If the results from the first sample collected during an event (for periodic Vent Gas flow events) are not available until after the second 15-minute block starts, use the results from the first sample collected during an event for the second 15-minute block associated with that event.
3. For all other cases, use the results that are available from the most recent sample prior to the 15-minute block period for that 15-minute block period for all Vent Gas streams. For the purpose of this requirement, use the time that the

results become available rather than the time the sample was collected. For example, if a sample is collected at 12:25 AM and the analysis is completed at 12:38 AM, the results are available at 12:38 AM and these results would be used to determine compliance during the 15-minute block period from 12:45 AM to 1:00 AM.

Direct Calculation Method. When calculating NHVvg for a specific 15-minute block:

1. If the results from the first sample collected during an event (for periodic Vent Gas flow events) are not available until after the second 15-minute block starts, use the results from the first sample collected during an event for the first 15-minute block associated with that event.
2. For all other cases, use the arithmetic average of all NHVvg measurement data results that become available during a 15-minute block to calculate the 15-minute block average for that period. For the purpose of this requirement, use the time that the results become available rather than the time the sample was collected. For example, if a sample is collected at 12:25 AM and the analysis is completed at 12:38 AM, the results are available at 12:38 AM and these results would be used to determine compliance during the 15-minute block period from 12:30 AM to 12:45 AM.

Step 2: Determine Volumetric Flow Rates of Gas Streams

The plant site shall determine the volumetric flow rate in standard cubic feet (scf) of Vent Gas, along with the volumetric flow rates (in scf) of any Supplemental Gas, Assist Steam, and Premix Assist Air, over a 15-minute block average basis. The 15-minute block average volumetric flow rates shall be calculated for set 15-minute time periods starting at 12:00 midnight to 12:15 AM, 12:15 AM to 12:30 AM and so on, concluding at 11:45 PM to midnight.

For any gas streams for which the plant site complies with Special Condition 40 by using a monitoring system that directly records volumetric flow rate: Use the direct output (measured value) of the monitoring system(s) (in scf), as corrected for the temperature and pressure of the system to standard conditions (*i.e.*, a temperature of 20 °C (68 °F) and a pressure of 1 atmosphere) to then calculate the average volumetric flow rate of that gas stream for the 15- minute block period.

For Vent Gas, Assist Steam, or Premix Assist Air gas streams for which the plant site complies with Special Condition 40 by using a mass flow monitor to determine volumetric flow rate: Equation 3 shall be used to determine the volumetric flow rate of Vent Gas, Assist Air, or Assist Steam by converting mass flow rate to volumetric flow at standard conditions (*i.e.*, a temperature of 20 °C (68 °F) and a pressure of 1 atmosphere). Equation 3 uses the molecular weight of the gas stream as an input to the equation; therefore, if the plant site elects to use a mass flow monitor to determine volumetric flow rate of Vent Gas, the plant site must collect compositional analysis data for such Vent Gas in accordance with the method set forth in 43.A. For Assist Steam, use a molecular weight of 18 pounds per pound-mole. For Assist Air, use a molecular weight of 29 pounds per pound-mole. The converted volumetric flow rates at standard conditions from Equation 3 shall then be used to calculate the average volumetric flow rate of that gas stream for the 15-minute block period.

Equation 3

For gas streams for which the molecular weight of the gas is known and for which the plant site complies with Special Condition 40 by using continuous pressure/temperature monitoring system(s): Use appropriate engineering calculations to determine the average volumetric flow rate of that gas stream for the 15-minute block period. For Assist Steam, use a molecular weight of 18 pounds per pound-mole. For Assist Air, use a molecular weight of 29 pounds per pound-mole. For Vent Gas, molecular weight must be determined by collecting compositional analysis data for such Vent Gas in accordance with the method set forth in Special Condition 43.A.

Step 3: Calculate the Net Heating Value of the Combustion Zone Gas (NHVcz)

For Flare FS-541 (EPN 1796-10) at which: 1) the Feed- Forward Calculation Method is used; 2) gas composition or Net Heating Value monitoring is performed in a location representative of the cumulative vent gas stream; and 3) Supplemental Gas flow additions to the Flare are directly monitored: Equation 4 shall be used to determine the 15-minute block average NHVcz based on the 15-minute block average Vent Gas, Supplemental Gas, and assist gas flow rates.

Equation 4

For the first 15-minute block period of an event, Q_{NG1} shall use the volumetric flow value for the current 15-minute block period (*i.e.*, $Q_{NG1} = Q_{NG2}$). NHV_{NG} shall be determined using one of the following methods: 1) direct compositional or Net Heating Value monitoring of the natural gas stream in accordance with Step 1; or 2) for purchased ("pipeline quality") natural gas streams, the plant site may elect to either: a) use annual or more frequent grab sampling at any one representative location; or b) assume a Net Heating Value of 920 BTU/scf.

For all other Flares: Equation 5 shall be used to determine the 15-minute block average NHVcz based on the 15-minute block average Vent Gas and assist gas flow rates. For periods when there is no Assist Steam flow or Premix Assist Air flow, $NHVcz = NHVvg$.

Equation 5

Step 4: Calculate the Net Heating Value Dilution Parameter (NHVdil)

For Flare FS-541 (EPN 1796-10) at which: 1) the Feed- Forward Calculation Method is used; 2) gas composition or Net Heating Value monitoring is performed in a location representative of the cumulative Vent Gas stream; and 3) Supplemental Gas flow additions to the Flare are directly monitored: Equation 6 shall be used to determine the 15-minute block average NHVdil only during periods when Perimeter Assist Air is used. For 15-minute block periods when there is no cumulative volumetric flow of Perimeter Assist Air, the 15-minute block average NHVdil parameter does not need to be calculated.

Equation 6

For the first 15-minute block period of an event, Q_{NG1} shall use the volumetric flow value for the current 15-minute block period (i.e., $Q_{NG1} = Q_{NG2}$). NHVNG shall be determined using one of the following methods: 1) direct compositional or Net Heating Value monitoring of the natural gas stream in accordance with Step 1; or 2) for purchased ("pipeline quality") natural gas streams, the plant site may elect to either: a) use annual or more frequent grab sampling at any one representative location; or b) assume a Net Heating Value of 920 BTU/scf.

For all other Flares: Equation 7 shall be used to determine the 15-minute block average NHVdil based on the 15-minute block average vent gas and Perimeter Assist Air flow rates, only during periods when Perimeter Assist Air is used. For 15-minute block periods when there is no cumulative volumetric flow of Perimeter Assist Air, the 15-minute block average NHVdil parameter does not need to be calculated.

Equation 7

Step 5: Ensure that during Flare operation, $NHV_{cz} > 270$ BTU/scf

The Flare must be operated to ensure that NHV_{cz} is equal to or above 270 BTU/scf, as determined for each 15-minute block period when Supplemental, Sweep, and/or Waste Gas is routed to a Flare for at least 15-minutes. Equation 8 shows this relationship.

Equation 8

Step 6: Ensure that during Flare operation, $NHV_{dil} > 22$ BTU/ft²

A Flare actively receiving Perimeter Assist Air must be operated to ensure that NHV_{dil} is equal to or above 22 BTU/ft², as determined for each 15-minute block period when Supplemental, Sweep, and/or Waste Gas is routed to a Flare for at least 15-minutes. Equation 9 shows this relationship.

Equation 9

Calculation Method for Determining Compliance with Vtip Operating Limits.

The plant site shall determine Vtip on a 15-minute Block Average basis according to the following requirements:

- (a) The plant site shall use design and engineering principles and the guidance in Appendix 1.3 to determine the Unobstructed Cross Sectional Area of the Flare Tip. The Unobstructed Cross Sectional Area of the Flare Tip is the total tip area that Vent Gas can pass through. This area does not include any stability tabs, stability rings, and Upper Steam or air tubes because Vent Gas does not exit through them.
- (b) The plant site shall determine the cumulative volumetric flow of Vent Gas for each 15-minute Block Average Period using the data from the continuous flow monitoring system required in Paragraph 40 according to the requirements in Step 2 above.

- (c) The 15-minute Block Average Vtip shall be calculated using Equation 10.

Equation 10

- (d) If the plant site chooses to comply with Paragraph 49.B, the site shall also determine the NHVvg using Step 1 above and calculate Vmax using Equation 11 in order to compare Vtip to Vmax on a 15-minute Block Average basis.

Equation 11

Key to the Abbreviations:

385.3 = conversion factor (scf/ b-mol)

850 = Constant

900 = Conversion factor, (seconds / 15-minute block average) $1,212$ = Constant

$Area$ = The unobstructed cross sectional area of the flare tip is the total tip area that vent gas can pass through, ft². This area does not include any stability tabs, stability rings, and upper steam or air tubes because flare vent gas does not exit through them. Use design and engineering principles to determine the unobstructed cross sectional area of the flare tip.

$Diam$ = Effective diameter of the unobstructed area of the flare tip for flare vent gas flow, ft. Determine the diameter as $Diam = 2 *$

i = individual component in Vent Gas (unitless)

MWt = molecular weight of the gas at the flow monitoring location (lb/ lb– mol)

n = number of components in Vent Gas (unitless)

NHV_{CZ} = Net Heating Value of Combustion Zone Gas (BTU/scf)

NHV_i = Net Heating Value of component i according to Table 1 of this Appendix (BTU/scf)

$NHV_{measured}$ = Net Heating Value of Vent Gas stream as measured by monitoring system (BTU/scf) NHV_{NG} = Net Heating Value of Supplemental Gas to flare during the 15 minute block period (BTU/scf) NHV_{vg} = Net Heating Value of Vent Gas (BTU/scf)

$Q_{a,perimeter}$ = cumulative vol flow of perimeter assist air during the 15 minute block period (scf)

$Q_{a,premix}$ = cumulative vol flow of premix assist air during the 15 minute block period (scf)

Q_{cum} = cumulative volumetric flow over 15-minute block average period (scf)

Q_{mass} = mass flow rate (pounds per second)

Q_{NG1} = cumulative vol flow of Supplemental Gas to flare during previous 15 minute block period (scf)

Q_{NG2} = cumulative vol flow of Supplemental Gas to flare during the 15 minute block period (scf)

Q_s = cumulative vol flow of Total Steam during the 15 minute block period (scf) Q_{vg} = cumulative vol flow of Vent Gas during the 15 minute block period (scf) Q_{vol} = volumetric flow rate (scf per second)

V_{max} = Maximum allowed flare tip velocity (feet per second)

V_{tip} = Flare tip velocity (feet per second)

x_i = concentration of component i in Vent Gas (vol fraction)

Attachment D

Permit Numbers 19027 and N296

Page 12

x_{H_2} = concentration of H_2 in Vent Gas at time sample was input into NHV monitoring system
(vol fraction)

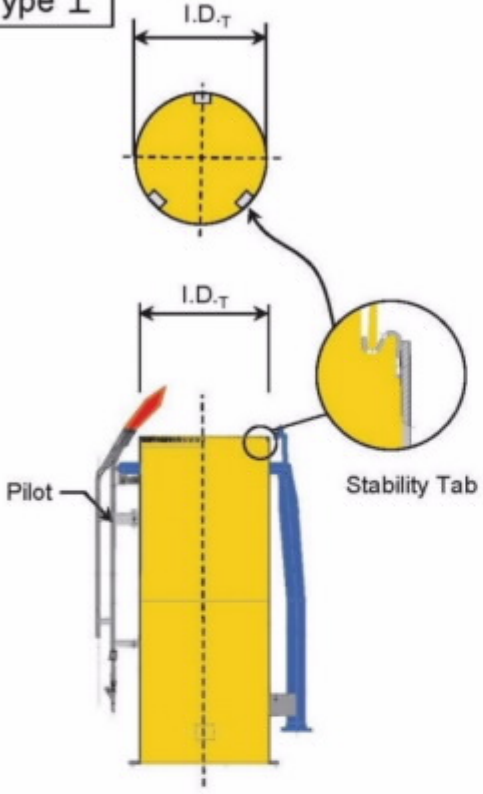
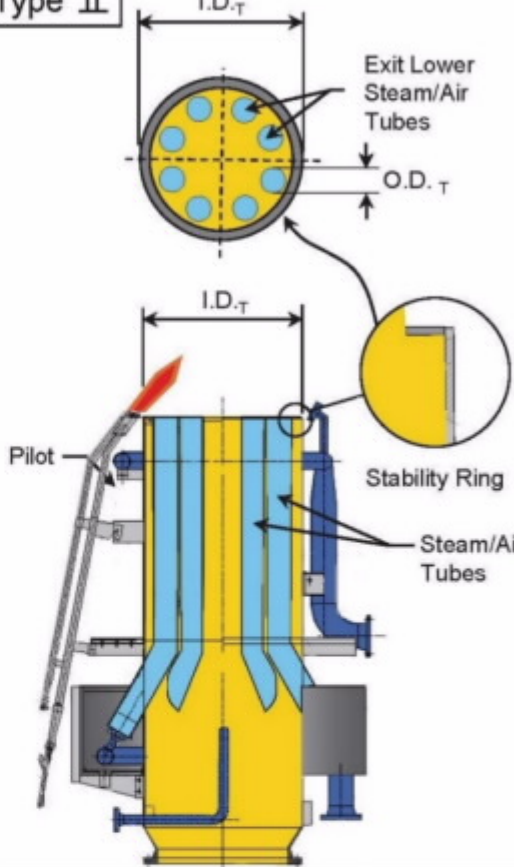
Table 1
Individual Component Properties

| Component | Molecular Formula | MW _i (pounds per pound-mole) | CMN _i (mole per mole) | NHV _i (British thermal units per standard cubic foot) | LEL _i (volume %) |
|------------------|--------------------------------|--|-------------------------------------|---|--------------------------------|
| Acetylene | C ₂ H ₂ | 26.04 | 2 | 1,404 | 2.5 |
| Benzene | C ₆ H ₆ | 78.11 | 6 | 3,591 | 1.3 |
| 1,2-Butadiene | C ₄ H ₆ | 54.09 | 4 | 2,794 | 2.0 |
| 1,3-Butadiene | C ₄ H ₆ | 54.09 | 4 | 2,690 | 2.0 |
| iso-Butane | C ₄ H ₁₀ | 58.12 | 4 | 2,957 | 1.8 |
| n-Butane | C ₄ H ₁₀ | 58.12 | 4 | 2,968 | 1.8 |
| cis-Butene | C ₄ H ₈ | 56.11 | 4 | 2,830 | 1.6 |
| iso-Butene | C ₄ H ₈ | 56.11 | 4 | 2,928 | 1.8 |
| trans-Butene | C ₄ H ₈ | 56.11 | 4 | 2,826 | 1.7 |
| Carbon Dioxide | CO ₂ | 44.01 | 1 | 0 | Cf) |
| Carbon Monoxide | CO | 28.01 | 1 | 316 | 12.5 |
| Cyclopropane | C ₃ H ₆ | 42.08 | 3 | 2,185 | 2.4 |
| Ethane | C ₂ H ₆ | 30.07 | 2 | 1,595 | 3.0 |
| Ethylene | C ₂ H ₄ | 28.05 | 2 | 1,477 | 2.7 |
| Hydrogen | H ₂ | 2.02 | 0 | 1,212 ^A | 4.0 |
| Hydrogen Sulfide | H ₂ S | 34.08 | 0 | 587 | 4.0 |
| Methane | CH ₄ | 16.04 | 1 | 896 | 5.0 |
| Methyl-Acetylene | C ₃ H ₄ | 40.06 | 3 | 2,088 | 1.7 |
| Nitrogen | N ₂ | 28.01 | 0 | 0 | Cf) |
| Oxygen | O ₂ | 32.00 | 0 | 0 | Cf) |
| Pentane+ (C5+) | C ₅ H ₁₂ | 72.15 | 5 | 3,655 | 1.4 |
| Propadiene | C ₃ H ₄ | 40.06 | 3 | 2,066 | 2.16 |
| Propane | C ₃ H ₈ | 44.10 | 3 | 2,281 | 2.1 |
| Propylene | C ₃ H ₆ | 42.08 | 3 | 2,150 | 2.4 |
| Water | H ₂ O | 18.02 | 0 | 0 | Cf) |

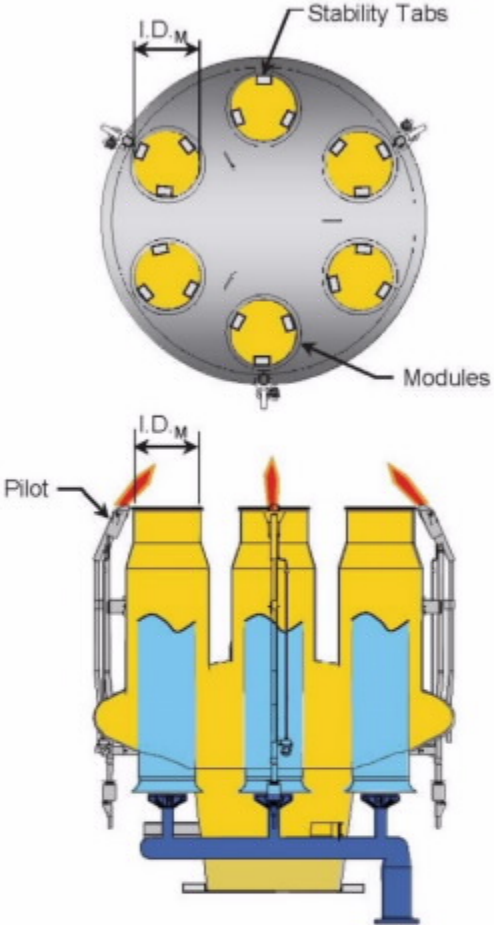
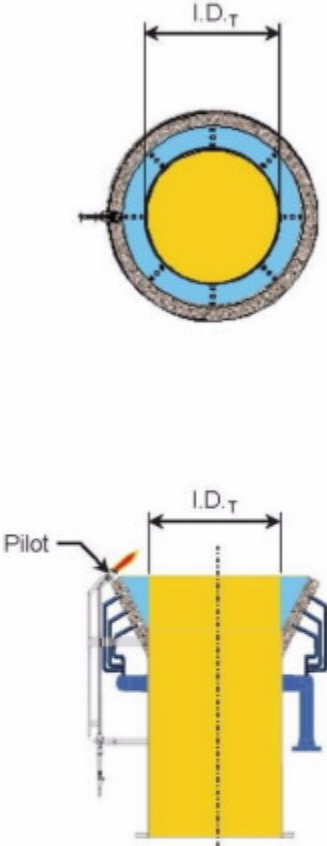
^A The theoretical Net Heating Value for hydrogen is 274 Btu/scf, but for the purposes of this Permit, a Net Heating Value of 1,212 Btu/scf shall be used.

Note: If a component is not specified in this Table 1, the heats of combustion may be determined using any published values where the net enthalpy per mole of offgas is based on combustion at 25 °C and 1 atmosphere (or constant pressure) with offgas water in the gaseous state, but the standard temperature for determining the volume corresponding to one mole of vent gas is 20°C.

**Appendix 1.3 - Calculating the Unobstructed Cross Sectional
Area of Various Types of Flare Tips**

| | |
|--|--|
| <p>Type I</p>  <p align="center">$A_{tip-unob} = \pi(I.D.T)^2/4 - (X_T * A_{ST})$</p> | <p>Type II</p>  <p align="center">$A_{tip-unob} = \pi(I.D.T)^2/4 - A_{ST} - N_T * \pi * (O.D.T)^2/4$</p> |
| <p>Where:</p> <ul style="list-style-type: none"> $A_{tip-unob}$ = Unobstructed Cross Sectional Area of Flare Tip $I.D.T$ = Inside Diameter Flare Tip X_T = Number of Stability Tabs A_{ST} = Area of a Stability Tab | <p>Where:</p> <ul style="list-style-type: none"> $A_{tip-unob}$ = Unobstructed Cross Sectional Area of Flare Tip $I.D.T$ = Inside Diameter Flare Tip A_{ST} = Area of Stability Ring $O.D.T$ = Outside Diameter of Steam/Air Tubes N_T = Number of Steam/Air Tubes |
| <p>Example:</p> <ul style="list-style-type: none"> $I.D.T = 41.5$ inches $X_T = 3$ $A_{ST} = 3$ Sq. inches | <p>Example:</p> <ul style="list-style-type: none"> $I.D.T = 47.5$ inches $A_{ST} = 100$ Sq. inches $O.D.T = 6.5$ inches $N_T = 8$ |
| <p>$A_{tip-unob} = \pi(41.5)^2/4 - (3 * 3)$ $A_{tip-unob} = 1344$ Sq. inches</p> | <p>$A_{tip-unob} = \pi(47.5)^2/4 - 100 - 8 * \pi * (6.5)^2/4$ $A_{tip-unob} = 1322$ Sq. inches</p> |

**Appendix 1.3 - Calculating the Unobstructed Cross Sectional
Area of Various Types of Flare Tips**

| Type III | Type IV |
|---|---|
|  $A_{tip-unob} = N_M * (\pi * (I.D._M)^2 / 4 - X_T * A_{ST})$ |  $A_{tip-unob} = \pi (I.D._T)^2 / 4$ |
| <p>Where: $A_{tip-unob}$ = Unobstructed Cross Sectional Area of Flare Tip $I.D._M$ = Inside Diameter of One Tip Module N_M = Number of Modules X_T = Number of Stability Tabs per Module A_{ST} = Area of a Stability Tab</p> | <p>Where: $A_{tip-unob}$ = Unobstructed Cross Sectional Area of Flare Tip $I.D._T$ = Inside Diameter of Flare Tip</p> |
| <p>Example: $I.D._M$ = 17 inches N_M = 6 X_T = 3 A_{ST} = 3 Sq. inches</p> | <p>Example: $I.D._T$ = 41.5 inches</p> |
| $A_{tip-unob} = 6 * (\pi * (17)^2 / 4 - 3 * 3)$ $A_{tip-unob} = 1308 \text{ Sq. inches}$ | $A_{tip-unob} = \pi (41.5)^2 / 4$ $A_{tip-unob} = 1353 \text{ Sq. inches}$ |

Appendix 2.1 - February 5, 2018, Johnson Letter



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

Mr. Chuck DeCarlo
Marketing Manager
Extrel CMS, LLC
575 Epsilon Drive, Suite 2
Pittsburg, PA 15238-2838

FEB 05 2018

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Mr. Tony Slapikas
Product Manager for Mass Spectrometry
AMETEK, Energy & Process Division
150 Freeport Road
Pittsburgh, PA 15238

Dear Mr. DeCarlo and Mr. Slapikas,

I am writing in response to your letter dated August 18, 2017, requesting approval for use of process mass spectrometers as part of an alternative to testing procedures utilizing calorimeters or gas chromatographs to measure Net Heating Value (NHV_{VG}) in flare vent gas as required under 40 CFR Part 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries. The owner or operator of facilities subject to Subpart CC must measure flare vent gas composition to determine NHV_{VG} in units of British Thermal Units per standard cubic foot (BTU/SCF). This BTU/SCF determination may be performed using a calorimeter capable of continuously measuring, calculating, and recording NHV_{VG} at standard conditions (40 CFR 63.670 (j)(3)) or equipment that determines the concentration of individual components in the flare vent gas (40 CFR 63.670 (j)(1)), such as a gas chromatograph, and, if desired, may directly measure the hydrogen concentration in the flare vent gas following the methods provided in 40 CFR 63.670 (j)(4). All monitoring equipment must meet the applicable minimum accuracy, calibration and quality control requirements specified in Table 13 and §63.671 of Subpart CC.

In your letter, you propose to use a process mass spectrometer analyzer and the following measurement approach as an alternative to measure NHV_{VG}:

- 1) The owner or operator of the affected facility will perform a pre-survey to determine the list and concentration of components that are present in flare vent gas feed. This pre-survey will be used in part to:
 - a) Determine an appropriate analysis method for the site-specific refinery flare vent gas;
 - b) Create a list of vent gas components to be included in calibration gas cylinders to be used to evaluate the quality of the measurement procedure used to determine NHV_{VG};
 - c) Define calibration standards to be prepared by a vendor at a certified accuracy of 2 percent and traceable to NIST; and
 - d) Perform an initial calibration to identify mass fragment overlap and response factors for the target compounds.

Appendix 2.1 - February 5, 2018, Johnson Letter

- 2) The process mass spectrometer will be calibrated using calibration gas standards consisting of a mix of the compounds identified in the site specific flare gas pre-survey.
- 3) During flare gas analysis, compounds that are not identified during the pre-survey and that have mass fragments identical to the compounds found during the pre-survey will be included in the calculation of NHV_{VG} .
- 4) Calibration error (CE) for each component in the calibration blend will be calculated using the following equation:

$$CE = \frac{C_m - C_a}{C_a} \times 100$$

Where :

C_m = Average instrument response, (ppm)
 C_a = Cylinder gas value or tag value, (ppm)

- 5) The average instrument CE for each calibration compound at any calibration concentration must not differ by more than 10 percent from the cylinder gas value or tag value.
- 6) For each set of triplicate injections at each calibration concentration for each calibration compound, any one introduction shall not deviate more than 5 percent from the average concentration measured at that level.

Your supporting information included Method 301 calculations that showed acceptable bias and precision when you measured a mixture of gases from a vendor certified gas cylinder. Your request also includes reference to facilities needing to monitor flare gas composition continuously to effectively maintain flare efficiency while compensating for changes in the flare gas composition.

With this letter, we are approving your request to substitute continuous process mass spectrometry for continuous gas chromatography as allowed in 40 CFR 63.670 and 63.671 predicated on both your proposed use of these process mass spectrometers as described above and the additional provisos listed below:

- 1) You must meet the requirements in 40 CFR 63.671 (e)(1) and (2) including Table 13 requirements for Net Heating Value by Gas Chromatograph.
- 2) You may use the alternative sampling line temperature allowed in 40 CFR 63, Subpart CC, Table 13, under Net Heating Value by Gas Chromatograph.
- 3) You must meet applicable Performance Specification 9 (40 CFR part 60, appendix B) requirements for initial continuous monitoring system acceptance including, but not limited to:
 - o Performing a multi-point calibration check at three concentrations following the procedure in Section 10.1; and
 - o Performing periodic process mass spectrometer calibrations as directed for gas chromatographs in 40 CFR 63, Subpart CC, Table 13.
- 4) You may augment the minimum list of calibration gas components found in 40 CFR 63.671(e) with compounds found during the pre-survey as needed to develop a site-specific analysis method.

Appendix 2.1 - February 5, 2018, Johnson Letter

- 5) For unknown gas components that have similar analytical mass fragments to calibration compounds, you may report the unknowns as an increase in the overlapped calibration gas compound.
- 6) For unknown compounds that do not produce mass fragments that overlap calibration compounds, you may use the response factor for the nearest molecular weight hydrocarbon in the calibration mix to quantify the unknown component's NHV_{VG}. This requirement parallels the requirements in 40 CFR Part 63.671 (e)(3) for gas chromatographs.
- 7) You may use the response factor for n-pentane to quantify any unknown components detected with a higher molecular weight than n-pentane.
- 8) You must meet all other applicable generic requirements of §§63.670 and 63.671 for measurement of NHV_{VG} (i.e., measurement requirements not specifically targeted to gas chromatographs).
- 9) A copy of this approval letter must be included in the report for each testing program where these alternative testing procedures are applied.

Since this alternative test method approval under 40 CFR 63.7 (f) is appropriate for use at all facilities subject to 40 CFR 63, Subpart CC, we will announce on EPA's Web site (<https://www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods>) that the alternative method is broadly applicable to determination of NHV_{VG} under this subpart.

If you have any questions regarding this approval or need further assistance, please contact Ray Merrill at (919) 541-5225 or merrill.raymond@epa.gov, or Robin Segall at (919) 541-0893 or segall.robin@epa.gov.

Sincerely,



Steffan M. Johnson, Group Leader
Measurement Technology Group

cc.

Gerri Garwood, EPA/OAQPS/SPPD
Maria Malave, EPA/OECA/OC
Brenda Shine, EPA/OAQPS/SPPD
EPA Regional Testing Contacts

Date: September 28, 2023

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

Permit Numbers 19027 and N296

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data Before Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|----------------------------|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| 1796-01A | Mineral Oil Scrubber | VOC | 0.70 | 0.26 |
| 1796-01B | Mineral Oil Scrubber | VOC | 3.36 | 0.22 |
| 1796-04A | Hexane Storage Tank | VOC | 0.19 | 0.27 |
| 1796-04B | Recovered Oil Storage Tank | VOC | 0.32 | 0.32 |
| 1796-06G | Catalytic Incinerator | CO | 17.50 | 76.65 |
| | | NO _x | 1.09 | 4.77 |
| | | PM | 0.14 | 0.63 |
| | | PM ₁₀ | 0.14 | 0.63 |
| | | PM _{2.5} | 0.14 | 0.63 |
| | | VOC | 5.19 | 7.02 |
| | | SO ₂ | 0.01 | 0.01 |
| 1796-08A/B/M | Flake Bag Filter | VOC | 10.11 | - |
| 1796-08A | Flake Bag Filter | PM | 0.01 | 0.02 |
| | | PM ₁₀ | 0.01 | 0.02 |
| | | PM _{2.5} | 0.01 | 0.02 |
| 1796-08B | Flake Bag Filter | PM | 0.01 | 0.02 |
| | | PM ₁₀ | 0.01 | 0.02 |
| | | PM _{2.5} | 0.01 | 0.02 |
| 1796-08C/D | Flake Bag Filter | VOC | 6.80 | - |
| 1796-08A/B/C/D/M | Flake Bag Filter | HCl (7) | 0.23 | 0.90 |
| 1796-08C | Flake Bag Filter | PM | 0.01 | 0.02 |
| | | PM ₁₀ | 0.01 | 0.02 |
| | | PM _{2.5} | 0.01 | 0.02 |

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|---|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| 1796-08D | Flake Bag Filter | PM | 0.01 | 0.02 |
| | | PM ₁₀ | 0.01 | 0.02 |
| | | PM _{2.5} | 0.01 | 0.02 |
| 1796-08M | Flake Bag Filter | PM | 0.01 | 0.02 |
| | | PM ₁₀ | 0.01 | 0.02 |
| | | PM _{2.5} | 0.01 | 0.02 |
| 1796-19A/B | Rotary Airlock Vent Filter | VOC | 6.80 | - |
| | | HCl | 0.02 | 0.06 |
| 1796-19A | Rotary Airlock Vent Filter | PM | 0.06 | 0.28 |
| | | PM ₁₀ | 0.06 | 0.28 |
| | | PM _{2.5} | 0.06 | 0.28 |
| 1796-19B | Rotary Airlock Vent Filter | PM | 0.06 | 0.28 |
| | | PM ₁₀ | 0.06 | 0.28 |
| | | PM _{2.5} | 0.06 | 0.28 |
| 1796-CAP | Flake Emission Cap Includes EPNs: 1796-08A, 1796-08B, 1796-08C, 1796-08D, and 1796-08M, and 1796-19A and 1796-19B | VOC | - | 32.58 |
| 1796-08N | Flake Bag Filter | PM | 0.53 | 0.65 |
| | | PM ₁₀ | 0.53 | 0.65 |
| | | PM _{2.5} | 0.53 | 0.65 |
| 1796-08O | Flake Bag Filter | PM | 0.53 | 0.79 |
| | | PM ₁₀ | 0.53 | 0.79 |
| | | PM _{2.5} | 0.53 | 0.79 |
| 1796-08P | Flake Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09A/I | Masterbatch Bag Filter | VOC | 0.25 | - |

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|------------------------|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| 1796-09A | Masterbatch Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09B/C | Pellet Bag Filter | VOC | 6.88 | - |
| 1796-09B | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09C | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09D/E/F/G/H | Pellet Bag Filter | VOC | 6.88 | |
| 1796-09D | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09E | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09F | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09G | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09H | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|---|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-10A | Flare FS-541 Routine Operation | CO | 35.72 | - |
| | | NO _x | 6.88 | - |
| | | VOC | 27.22 | - |
| | | SO ₂ | 0.18 | - |
| 1796-10A | Flare FS-541 MSS | CO | 304.41 | - |
| | | NO _x | 59.09 | - |
| | | VOC | 250.97 | - |
| | | SO ₂ | 0.33 | - |
| 1796-10A | Flare FS-541 Routine and MSS Annual Emission Cap | CO | - | 67.29 |
| | | NO _x | - | 12.57 |
| | | VOC | - | 37.04 |
| | | SO ₂ | - | 0.29 |
| 1796-10A | Flare FS-541 Back-Up to Catalytic Incinerator (6) | CO | 16.49 | 19.79 |
| | | NO _x | 3.24 | 3.88 |
| | | VOC | 2.00 | 2.40 |
| | | SO ₂ | 0.03 | 0.12 |
| 1796-12A | Process Fugitives (5) | VOC | 3.52 | 15.40 |
| 1796-12B | Pellet Storage | VOC | 6.88 | - |
| 1796-12E | Product Loadout | VOC | 6.88 | - |
| 1796-20A/B | Pellet Dryers | VOC | 6.88 | - |
| 1796-13A | Cooling Tower | VOC | 1.43 | 6.25 |
| | | PM | 0.85 | 2.24 |
| | | PM ₁₀ | 0.85 | 2.24 |
| | | PM _{2.5} | 0.85 | 2.24 |
| 1796-15A | Emergency Generator | CO | 4.01 | 1.76 |
| | | NO _x | 18.60 | 8.15 |

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|---|---|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| | | PM | 1.32 | 0.58 |
| | | PM ₁₀ | 1.32 | 0.58 |
| | | PM _{2.5} | 1.32 | 0.58 |
| | | VOC | 1.51 | 0.66 |
| | | SO ₂ | 1.23 | 0.54 |
| 1796-15B | Diesel Tank | VOC | 0.29 | 0.01 |
| 1796-16 | API Separator | VOC | 0.11 | 0.19 |
| 1796-20C/D | Pellet Surge Hoppers | VOC | 6.88 | - |
| 1796-PCAP | Pellet Emission Cap Includes EPNs 1796-09A/B/C/D/E/F/G/H/I, 1796-12B/E, and 1796- 20A/B/C/D | VOC | - | 21.92 |
| ROUTINE MAINTENANCE, STARTUP, AND SHUTDOWN (MSS) EMISSIONS | | | | |
| 1796-18A | Train 1 Reactor Vent H-549 | VOC | 10.00 | 0.44 |
| 1796-18B | Train 2 Reactor Vent H-549 | VOC | 10.00 | 0.44 |
| 1796-MSS | MSS Fugitive Emissions | VOC | 5.00 | 3.88 |
| | | PM | 0.05 | 0.01 |
| | | PM ₁₀ | 0.05 | 0.01 |
| | | PM _{2.5} | 0.05 | 0.01 |

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 CO - carbon monoxide
 HCl - hydrogen chloride
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Represents emissions attributable to flaring of inlet stream normally routed to Catalytic Incinerator (EPN 1796-06G) during periods when the Catalytic Incinerator is not in service.

Emission Sources - Maximum Allowable Emission Rates Before Startup of Expanded Operations Controlled by RTO

(7) Only two of the five emission point between 1796-08A/B/C/D/M are authorized to emit simultaneously.

Date: November 17, 2022

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

Emission Sources – Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

Permit Numbers 19027 and N296

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|-------------------------------------|--------------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| 1796-01A | Mineral Oil Scrubber | VOC | 0.70 | 0.26 |
| 1796-01B | Mineral Oil Scrubber | VOC | 3.36 | 0.25 |
| 1796-04A | Hexane Storage Tank | VOC | 0.19 | 0.27 |
| 1796-04B | Recovered Oil Storage Tank | VOC | 0.32 | 0.33 |
| 1796-06H | Regenerative Thermal Oxidizer (RTO) | VOC | 2.73 | (7) |
| | | CO | 0.44 | 0.64 |
| | | CO (Start-up/ Maintenance) | 0.89 | - |
| | | NOx | 0.16 | 0.35 |
| | | NOx (Start-up/ Maintenance) | 0.48 | - |
| | | SO ₂ | 0.02 | 0.05 |
| | | HCl | 0.30 | 1.12 |
| | | PM | 0.02 | 0.07 |
| | | PM ₁₀ | 0.02 | 0.07 |
| | | PM _{2.5} | 0.02 | 0.07 |
| 1796-08A/B/M | Flake Bag Filter | VOC (6) (7) | 6.71 | -- |
| 1796-08A | Flake Bag Filter | PM | 0.02 | <0.01 |
| | | PM ₁₀ | 0.02 | <0.01 |
| | | PM _{2.5} | 0.02 | <0.01 |
| 1796-08B | Flake Bag Filter | PM | 0.02 | <0.01 |
| | | PM ₁₀ | 0.02 | <0.01 |

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|---|--------------------------|----------------|------------------------|
| | | | lbs/hour | TPY (4) |
| | | PM _{2.5} | 0.02 | <0.01 |
| 1796-08M | Flake Bag Filter | PM | 0.02 | <0.01 |
| | | PM ₁₀ | 0.02 | <0.01 |
| | | PM _{2.5} | 0.02 | <0.01 |
| 1796-08C/D | Flake Bag Filter | VOC (6) (7) | 4.47 | -- |
| 1796-08A/B/C/D/M | Flake Bag Filter | HCl (8) | 0.10 | <0.01 |
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | Emission Point No. (1) |
| 1796-08C | Flake Bag Filter | PM | 0.02 | <0.01 |
| | | PM ₁₀ | 0.02 | <0.01 |
| | | PM _{2.5} | 0.02 | <0.01 |
| 1796-08D | Flake Bag Filter | PM | 0.02 | <0.01 |
| | | PM ₁₀ | 0.02 | <0.01 |
| | | PM _{2.5} | 0.02 | <0.01 |
| 1796-19A/B | Rotary Airlock Vent Filters | VOC (6) (7) | 4.47 | -- |
| | | HCl | 0.06 | <0.01 |
| 1796-19A | Rotary Airlock Vent Filter | PM | 0.06 | <0.01 |
| | | PM ₁₀ | 0.06 | <0.01 |
| | | PM _{2.5} | 0.06 | <0.01 |
| 1796-19B | Rotary Airlock Vent Filter | PM | 0.06 | <0.01 |
| | | PM ₁₀ | 0.06 | <0.01 |
| | | PM _{2.5} | 0.06 | <0.01 |
| 1796-CAP | Flake Emission SubCap (RTO Downtime) Includes EPNs: 1796-08A/B/C/D/M, and 1796-19A /B | VOC (6) | -- | 0.33 |
| 1796-08N | Flake Bag Filter | PM | 0.05 | 0.09 |
| | | PM ₁₀ | 0.05 | 0.09 |
| | | PM _{2.5} | 0.05 | 0.09 |
| 1796-08O | Flake Bag Filter | PM | 0.05 | 0.09 |

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|------------------------|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| | | PM ₁₀ | 0.05 | 0.09 |
| | | PM _{2.5} | 0.05 | 0.09 |
| 1796-08P | Flake Bag Filter | VOC (7) | 8.37 | -- |
| | | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09A/I | Masterbatch Bag Filter | VOC (7) | 0.25 | -- |

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | Emission Point No. (1) |
|------------------------|------------------------|--------------------------|----------------|------------------------|
| 1796-09A | Masterbatch Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09B/C | Pellet Bag Filter | VOC (7) | 8.37 | -- |
| 1796-09B | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09C | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09D/E/F/G/H/J | Pellet Bag Filter | VOC (7) | 8.37 | -- |
| 1796-09D | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09E | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09F | Pellet Bag Filter | PM | 0.01 | 0.01 |

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|--|---|--------------------------|----------------|------------------------|
| | | | lbs/hour | TPY (4) |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09G | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09H | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| 1796-09J | Pellet Bag Filter | PM | 0.01 | 0.01 |
| | | PM ₁₀ | 0.01 | 0.01 |
| | | PM _{2.5} | 0.01 | 0.01 |
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | Emission Point No. (1) |
| 1796-12B | Pellet Storage | VOC (7) | 8.37 | -- |
| 1796-12E | Product Loadout | VOC (7) | 8.37 | -- |
| 1796-20A/B | Pellet Dryers | VOC (7) | 8.37 | -- |
| 1796-20C/D | Pellet Surge Hoppers | VOC (7) | 8.37 | -- |
| 1796-20C | Pellet Surge Hoppers | PM | 0.02 | 0.08 |
| | | PM ₁₀ | 0.02 | 0.08 |
| | | PM _{2.5} | 0.02 | 0.08 |
| 1796-20D | Pellet Surge Hoppers | PM | 0.02 | 0.08 |
| | | PM ₁₀ | 0.02 | 0.08 |
| | | PM _{2.5} | 0.02 | 0.08 |
| 1796-08P, 1796-09A/B/C/D/E/F/G/H/I/J, 1796-12B/E, 1796-20A/B/C/D | Pellet Hourly Cap | VOC | 14.80 | -- |
| 1796-FPCAP | Pellet Annual Emission Cap Includes EPNs 1796-06G, 1796-06H, 1796-08A/B/C/D/M/P, 1796-09A/B/C/D/E/F/G/H/I/J, 1796-12B/E, 1796-19A/B, 1796-20A/B/C/D | VOC | - | 29.84 |
| 1796-10A | Flare FS-541 Routine Operation | VOC | 33.03 | -- |

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|---|--|--------------------------|----------------|------------------------|
| | | | lbs/hour | TPY (4) |
| | | NOx | 7.96 | -- |
| | | CO | 41.37 | -- |
| | | SO ₂ | 0.18 | -- |
| | Flare FS-541 MSS | VOC | 250.97 | -- |
| | | NOx | 59.09 | -- |
| | | CO | 304.41 | -- |
| | | SO ₂ | 3.33 | -- |
| | Flare FS-541 Back-Up to RTO | VOC | 2.00 | -- |
| | | NOx | 3.24 | -- |
| | | CO | 16.49 | -- |
| | | SO ₂ | 0.27 | -- |
| | Flare FS-541 Routine and MSS Annual Emission Cap | VOC | - | 37.16 |
| | | NOx | - | 12.76 |
| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | Emission Point No. (1) |
| | | CO | - | 68.28 |
| | | SO ₂ | - | 0.49 |
| 1796-12A | Process Fugitives (5) | VOC | 3.50 | 15.30 |
| 1796-13A | Cooling Tower | VOC | 1.43 | 6.25 |
| | | PM | 0.85 | 2.24 |
| | | PM ₁₀ | 0.34 | 0.89 |
| | | PM _{2.5} | 0.09 | 0.22 |
| 1796-15B | Diesel Tank | VOC | 0.29 | 0.01 |
| 1796-16 | API Separator | VOC | 0.11 | 0.19 |
| ROUTINE MAINTENANCE, STARTUP, AND SHUTDOWN (MSS) EMISSIONS | | | | |
| 1796-18A | Train 1 Reactor Vent H-549 | VOC | 10.00 | 0.44 |
| 1796-18B | Train 2 Reactor Vent H-549 | VOC | 10.00 | 0.44 |
| 1796-MSS | MSS Fugitive Emissions | VOC | 5.00 | 3.88 |

Emission Sources - Maximum Allowable Emission Rates After Startup of Expanded Operations Controlled by RTO

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|------------------------|-----------------|--------------------------|----------------|---------|
| | | | lbs/hour | TPY (4) |
| | | PM | 0.05 | 0.01 |
| | | PM ₁₀ | 0.05 | 0.01 |
| | | PM _{2.5} | 0.05 | 0.01 |

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
 PM_{2.5} - particulate matter equal to or less than 2.5 microns in diameter
 CO - carbon monoxide
 HCl - hydrogen chloride
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Annual emissions are included in EPN 1796-CAP which is authorized when the RTO (EPN 1796-06H) is down.
- (7) Annual emissions are included in EPN 1796-FPCAP.
- (8) Only two of the five emission point between 1796-08A/B/C/D/M are authorized to emit simultaneously.

Date: January 12, 2024



Texas Commission on Environmental Quality Air Quality Permit

A Permit Is Hereby Issued To
Chevron Phillips Chemical Company LP
Authorizing the Construction and Operation of
Chevron Phillips Chemical Cedar Bayou Plant
Located at Baytown, Harris County, Texas
Latitude 29.826388 Longitude -94.919444

Permit: 135086 and N224

Revision Date: September 28, 2023

Expiration Date: May 13, 2026



For the Commission

1. **Facilities** covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code (TAC) Section 116.116 (30 TAC § 116.116)]¹
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the Texas Clean Air Act (TCAA), including protection of the public's health and physical property; and (b)(1) the permit holder is a party to litigation not of the permit holder's initiation regarding the issuance of the permit; or (b)(2) the permit holder has spent, or committed to spend, at least 10 percent of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

1. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources-- Maximum Allowable Emission Rates." [30 TAC § 116.115(b)(2)(F)]¹
2. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification in accordance with 30 TAC §101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC § 116.115(b)(2)(G)]
3. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC § 116.115(b)(2)(H)]
4. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
5. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC § 116.115(c)]
6. **Emissions** from this facility must not cause or contribute to "air pollution" as defined in Texas Health and Safety Code (THSC) §382.003(3) or violate THSC § 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
7. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.¹

¹ Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Common Acronyms in Air Permits

| | |
|---|---|
| °C = Temperature in degrees Celsius | gpm = gallon per minute |
| °F = Temperature in degrees Fahrenheit | gr/1000scf = grain per 1000 standard cubic feet |
| °K = Temperature in degrees Kelvin | gr/dscf = grain per dry standard cubic feet |
| µg = microgram | H ₂ CO = formaldehyde |
| µg/m ³ = microgram per cubic meter | H ₂ S = hydrogen sulfide |
| acfm = actual cubic feet per minute | H ₂ SO ₄ = sulfuric acid |
| AMOC = alternate means of control | HAP = hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C |
| AOS = alternative operating scenario | HC = hydrocarbons |
| AP-42 = Air Pollutant Emission Factors, 5th edition | HCl = hydrochloric acid, hydrogen chloride |
| APD = Air Permits Division | Hg = mercury |
| API = American Petroleum Institute | HGB = Houston/Galveston/Brazoria |
| APWL = air pollutant watch list | hp = horsepower |
| BPA = Beaumont/ Port Arthur | hr = hour |
| BACT = best available control technology | IFR = internal floating roof tank |
| BAE = baseline actual emissions | in H ₂ O = inches of water |
| bbl = barrel | in Hg = inches of mercury |
| bbl/day = barrel per day | IR = infrared |
| bhp = brake horsepower | ISC3 = Industrial Source Complex, a dispersion model |
| BMP = best management practices | ISCST3 = Industrial Source Complex Short-Term, a dispersion model |
| Btu = British thermal unit | K = Kelvin; extension of the degree Celsius scaled-down to absolute zero |
| Btu/scf = British thermal unit per standard cubic foot or feet | LACT = lease automatic custody transfer |
| CAA = Clean Air Act | LAER = lowest achievable emission rate |
| CAM = compliance-assurance monitoring | lb = pound |
| CEMS = continuous emissions monitoring systems | lb/day = pound per day |
| cfm = cubic feet (per) minute | lb/hr = pound per hour |
| CFR = Code of Federal Regulations | lb/MMBtu = pound per million British thermal units |
| CN = customer ID number | LDAR = Leak Detection and Repair (Requirements) |
| CNG = compressed natural gas | LNG = liquefied natural gas |
| CO = carbon monoxide | LPG = liquefied petroleum gas |
| COMS = continuous opacity monitoring system | LT/D = long ton per day |
| CPMS = continuous parametric monitoring system | m = meter |
| DFW = Dallas/ Fort Worth (Metroplex) | m ³ = cubic meter |
| DE = destruction efficiency | m/sec = meters per second |
| DRE = destruction and removal efficiency | MACT = maximum achievable control technology |
| dscf = dry standard cubic foot or feet | MAERT = Maximum Allowable Emission Rate Table |
| dscfm = dry standard cubic foot or feet per minute | MERA = Modeling and Effects Review Applicability |
| ED = (TCEQ) Executive Director | mg = milligram |
| EF = emissions factor | mg/g = milligram per gram |
| EFR = external floating roof tank | mL = milliliter |
| EGU = electric generating unit | MMBtu = million British thermal units |
| EI = Emissions Inventory | MMBtu/hr = million British thermal units per hour |
| ELP = El Paso | MSDS = material safety data sheet |
| EPA = (United States) Environmental Protection Agency | MSS = maintenance, startup, and shutdown |
| EPN = emission point number | MW = megawatt |
| ESL = effects screening level | NAAQS = National Ambient Air Quality Standards |
| ESP = electrostatic precipitator | NESHAP = National Emission Standards for Hazardous Air Pollutants |
| FCAA = Federal Clean Air Act | NGL = natural gas liquids |
| FCCU = fluid catalytic cracking unit | NNSR = nonattainment new source review |
| FID = flame ionization detector | NO _x = total oxides of nitrogen |
| FIN = facility identification number | NSPS = New Source Performance Standards |
| ft = foot or feet | PAL = plant-wide applicability limit |
| ft/sec = foot or feet per second | PBR = Permit(s) by Rule |
| g = gram | PCP = pollution control project |
| gal/wk = gallon per week | |
| gal/yr = gallon per year | |
| GLC = ground level concentration | |
| GLC _{max} = maximum (predicted) ground-level concentration | |

PEMS = predictive emission monitoring system
PID = photo ionization detector
PM = periodic monitoring
PM = total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
PM_{2.5} = particulate matter equal to or less than 2.5 microns in diameter
PM₁₀ = total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}, as represented
POC = products of combustion
ppb = parts per billion
ppm = parts per million
ppmv = parts per million (by) volume
psia = pounds (per) square inch, absolute
psig = pounds (per) square inch, gage
PTE = potential to emit
RA = relative accuracy
RATA = relative accuracy test audit
RM = reference method
RVP = Reid vapor pressure
scf = standard cubic foot or feet
scfm = standard cubic foot or feet (per) minute
SCR = selective catalytic reduction
SIL = significant impact levels
SNCR = selective non-catalytic reduction
SO₂ = sulfur dioxide
SOCMI = synthetic organic chemical manufacturing industry
SRU = sulfur recovery unit
TAC = Texas Administrative Code
TCAA = Texas Clean Air Act
TCEQ = Texas Commission on Environmental Quality
TD = Toxicology Division
TLV = threshold limit value
TMDL = total maximum daily load
tpd = tons per day
tpy = tons per year
TVP = true vapor pressure
VOC = volatile organic compounds as defined in Title 30
Texas Administrative Code § 101.1
VRU = vapor recovery unit or system

Special Conditions

Permit No. 135086 and N224

Emission Standards

1. This permit authorizes emissions from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT) and the facilities covered by this permit are authorized to emit subject to the emission rate limits on the MAERT and other requirements specified in the special conditions. The annual rates are based on any consecutive 12-month period unless otherwise noted.

Planned startup and shutdown emissions due to the activities identified in Special Condition 2 are authorized from facilities and emission points identified in Attachment A in other construction permits at the site, provided the facilities, activities, and emissions are compliant with the respective MAERT and special conditions.

2. This permit authorizes the emissions from the facilities identified in Attachment A for the planned maintenance, startup, and shutdown (MSS) activities for venting and control of purge gas streams summarized in the MSS Activity Summary (Attachment B) attached to this permit.

Transfer of materials through existing piping/fugitive components and additional planned MSS activities not identified in Attachments A or B, and the associated emissions, shall comply with the construction permits at the site or other applicable authorizations for the identified units as follows:
(09/23)

| Unit Name | Flare | Associated Ch 116 Permit |
|-----------|---------|--------------------------------|
| PEU-1792 | X-901 | 2462C |
| PEU-1796 | FS-541 | 19027 |
| PEU-1799 | FS-9006 | 46305 |
| NAO-1797 | Z-101 | 37063 |
| NAO-1798 | Z-1101 | |
| HU-1891 | Z-251 | |

Federal Applicability

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):
 - A. Subpart A, General Provisions.
 - B. Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006.
 - C. Subpart DDD, Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry.
 - D. Subpart NNN, Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations.
 - E. Subpart RRR, Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.
4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:
 - A. Subpart A, General Provisions.
 - B. Subpart SS, National Emission Standards for Hazardous Air Pollutants: Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process.
 - C. Subpart FFFF, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.

Operational Specifications

5. For the purge gas stream routing scenarios identified in Attachment B, all streams shall be vented to flare as listed.
6. Flares X-901, FS-541, FS-9006, Z-101, Z-1101, and Z-251, including any temporary flares used in place of a specified flare, shall be designed and operated in accordance with the authorization for the flare as specified in Special Condition 2. **(09/23)**

Compliance Assurance Monitoring

7. The following requirements apply to capture systems for all flares and planned MSS authorized by this permit:
 - A. The following requirements apply to the closed vent capture system which includes all equipment that contains, collects, and transports air pollutants from a source to the flares listed in Attachment A. To control pollutants other than particulate:
 - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or

- (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 parts per million by volume (ppmv) above background; or,
- (3) Maintain the capture system under negative pressure at all times, verified and recorded weekly with a pressure measurement device.

For unsafe-to-inspect parts of a closed vent systems the applicant shall maintain a written plan, available at the site and upon request, for inspecting the equipment as frequently as practicable during safe-to-inspect conditions. The plan shall identify and explain the inherent dangers associated with of all parts of the closed vent system that are designated as unsafe. Inspection is not required more than once in any 12-month period.

- B. If there is a bypass for the flares listed in Attachment A, comply with either of the following requirements:

All bypasses for the flares listed in Attachment A shall:

- (1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or
- (2) Once a month, inspect the valves, verifying the position of the valves and the condition of the car seals prevent flow out the bypass.

A bypass does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly.

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device when it is required to be in service per this permit.

- C. Records of the required inspections shall be maintained. If the result of any of the inspections is not satisfactory, the permit holder shall promptly take necessary corrective action.

Recordkeeping

8. Records shall be maintained indicating that the start and end times of each of the activities identified in Attachment B and documentation that the requirements of these special conditions and emission limitations have been satisfied. Total emissions should be summed for each activity using the flow and VOC analyzer data collected under Special Condition No. 6. Records shall be retained for no less than five (5) years.

Offsets

9. This Nonattainment New Source Review (NNSR) permit is issued/approved based on the requirement that the permit holder offset the project emission increase for facilities authorized by this permit prior to the commencement of operation, through participation in the TCEQ Emission Banking and Trading (EBT) Program in accordance with the rules in 30 TAC Chapter 101, Subchapter H, including time frames.
10. The permit holder shall use 44.7 tons per year (tpy) of VOC credits (Emission Reduction Credits and/or Discrete Emission Reduction Credits) to offset the 34.4 tpy VOC project emission increase

Special Conditions

Permit No. 135086 and N224

Page 4

for the facilities authorized by this permit at a ratio of 1.3 to 1.0. The total amount of offsets are required during any calendar year when the permitted activities occur. No offsets are required for any calendar year when the permitted activities do not occur. Credits need to be provided and approved in advance of the activities.

11. Prior to the commencement of operation, the permit holder shall obtain approval from the TCEQ EBT Program for the credits being used and then submit a permit alteration or amendment request to the TCEQ Air Permits Division (and copy the TCEQ Regional Office) to identify approved credits by TCEQ credit certificate number.
 - A. For the period between September 1st, 2016 to December 31st, 2016, 44.7 tons of DERCS from credit certificate No. D3247 will be used to meet the requirement of Special Condition No. 10.
 - B. For the period between October 12th, 2017 to December 31st, 2017, 44.7 tons of DERCS from credit certificate No. D3340 will be used to meet the requirement of Special Condition No. 10. **(12/17)**
12. In addition to, or in place of, using credits as described in Special Condition Number 9, the permit holder may use up to 44.7 tpy of Highly Reactive Volatile Organic Compounds Emission Cap and Trade (HECT) allowances to offset the 34.4 tpy VOC project emission increase for the following HECT facilities authorized by this permit at a ratio of 1.3 to 1.0: **(09/23)**
 - A. FIN X-901 EPN 45
 - B. FIN FS-541, EPN 1796-10A
 - C. FIN FS-9006, EPN 1799-20
 - D. FIN Z-101, EPN 110
 - E. FIN Z-1101, EPN 1798-22
 - F. FIN Z-251, EPN 129

Date: September 28, 2023

MSS Facilities Summary

Attachment A

Permit 135086, N224

This permit authorizes planned MSS emissions from purge gases from the permanent site facilities identified below.

| Unit Name * / Facility Identification No. (FIN) | Associated Permit No. | Flare Identification | Flare FIN / Emission Point No. (EPN) |
|--|----------------------------------|---------------------------------|---|
| PEU-1792/P-1792 | 2462C | X-901 | X-901/45 |
| PEU-1796/P-1796 | 19027 | FS-541 | FS-541/1796-10A |
| PEU-1799/P-1799 | 46305 | FS-9006 | FS-9006/1799-20 |
| NAO-1797/P-1797 | 37063, N178 | Z-101 | Z-101/110 |
| NAO-1798/P-1798 | 37063, N178 | Z-1101 | Z-1101/1798-22 |
| HU-1891/P-1891 | 37063, N178 | Z-251 | Z-251/129 |

* Abbreviations:

PEU - Polyethylene Units

NAO - Normal Alpha Olefins Units

HU - 1-Hexene Unit

Date: September 28, 2023

MSS Activities Summary

Attachment B

Permit 135086, N224

| Scenario No. | Description | Facilities | Vented/Control |
|--------------|---|---|-------------------------|
| 1 | All unit purge gas streams vent to their specific unit flares | <i>See Attachment A</i> | <i>See Attachment A</i> |
| 2 | PEU all vent to designated flare | PEU-1792, PEU-1796, PEU-1799 | FS-541 |
| | NAO and HU vent to specific unit flares | <i>See Attachment A</i> | <i>See Attachment A</i> |
| 3 | PEU all vent to designated flare | PEU-1792, PEU-1796, PEU-1799 | X-901 |
| | NAO and HU vent to specific unit flares | <i>See Attachment A</i> | <i>See Attachment A</i> |
| 4 | One NAO vent to specific unit flare | NAO-1798 | Z-1101 |
| | All other units vent to designated flare | PEU-1792, PEU-1796, PEU-1799, NAO-1797, HU-1891 | Z-101 |

NOTE: The production units with purge gas streams will continue to operate normally and during the periods when purge gas streams are being flared as authorized by this permit.

Date: May 13, 2016

Emission Sources - Maximum Allowable Emission Rates

Permit Number 135086 & N224

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

| Emission Point No. (1) | Source Name (2) | Air Contaminant Name (3) | Emission Rates | |
|--|---|--------------------------|----------------|---------|
| | | | lbs/hour (4) | TPY (5) |
| 1796-10A 1798-22 1799-20 45 110 129 | Flare Group (6) FS-541 Z-1101 FS-9006 X-901 Z-101 Z-251 | VOC | 135.62 | 34.33 |
| | | NOx | 16.04 | 4.06 |
| | | CO | 103.91 | 26.30 |

- (1) Emission point identification - either specific equipment designation or emission point number (EPN) from plot plan.
- (2) Specific point source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
CO - carbon monoxide
- (4) Compliance with hourly emission limits (pounds per hour) is in addition to emissions authorized by Permit Nos. 2462C, 19027, 46305, and 37063 for the listed EPNs.
- (5) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period and is in addition to emissions authorized by Permit Nos. 2462C, 19027, 46305, and 37063 for the listed EPNs
- (6) Purge gas may be vented to a combination of one or more flares in the designated group as described in Special Conditions Attachment B and permit application representations.

Date: September 28, 2023