

# 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 (PEU 1799)  
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: Q2370 Issuance Date: May 20, 2020

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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 .....	12
Protection of Stratospheric Ozone .....	12
Permit Location .....	12
Permit Shield (30 TAC § 122.148) .....	13
Attachments .....	14
Applicable Requirements Summary.....	15
Additional Monitoring Requirements .....	56
Permit Shield .....	61
New Source Review Authorization References .....	63
Schedules .....	67
Appendix A.....	69
Acronym List .....	70
Appendix B.....	71

## **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 ZZZZ and DDDDD as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter

113, Subchapter C, § 113.1090 and § 113.1130, respectively, which incorporate the 40 CFR Part 63 Subparts 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<sub>x</sub>, 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<sub>x</sub>, 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 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)
6. 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)
7. 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)
8. For facilities with containers subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
- A. Title 40 CFR § 61.345(a)(1) - (3), (b), and (c) (relating to Standards: Containers)
  - B. Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
  - C. Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)
  - D. Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)
9. 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.

#### **Additional Monitoring Requirements**

10. 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 either of the following requirements for any capture system associated with the VOC control device subject to CAM. If the results of the following inspections indicate that the capture system is not working properly, the permit holder shall promptly take necessary corrective actions:
    - (i) Once a year the permit holder shall inspect the capture system in compliance of CAM for leaks 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 ppm above background or as defined by the underlying applicable requirement; or
    - (ii) Once a month, the permit holder shall conduct a visual, audible, and/or olfactory inspection of the capture system in compliance of CAM to detect leaking components.
  - F. 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.
11. 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**

12. 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 May 7, 2021 in the application

for project 31849), 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
13. 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.
14. 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).
15. The permit holder shall comply with the following requirements for Air Quality Standard Permits:
- A. Registration requirements listed in 30 TAC § 116.611, unless otherwise provided for in an Air Quality Standard Permit
  - B. General Conditions listed in 30 TAC § 116.615, unless otherwise provided for in an Air Quality Standard Permit
  - C. Requirements of the non-rule Air Quality Standard Permit for Pollution Control Projects

### **Compliance Requirements**

16. 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.
17. The permit holder shall adhere to the provisions in the Compliance Schedule attachment of this permit and submit certified progress reports consistent with the schedule established under 30 TAC § 122.132(d)(4)(C) and including the information specified in 30 TAC § 122.142(d)(2). Those emission units listed in the Compliance Schedule attachment shall adhere with the requirements in the Compliance Schedule attachment until operating fully in compliance with the applicable requirements.
18. 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 Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).
  - C. 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.
19. 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)
20. 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**

21. 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**

22. 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 H related to Halon Emissions Reduction requirements as specified in 40 CFR § 82.250 - § 82.270 and the applicable Part 82 Appendices.

### **Permit Location**

23. 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)**

24. 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**

**Schedules**



### **Applicable Requirements Summary**

<b>Unit Summary .....</b>	<b>16</b>
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<b>Applicable Requirements Summary .....</b>	<b>22</b>
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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
1799-01	PROCESS HEATERS/FURNACES	N/A	R7ICI-01	30 TAC Chapter 117, Subchapter B	No changing attributes.
1799-01	PROCESS HEATERS/FURNACES	N/A	63DDDDD-01	40 CFR Part 63, Subpart DDDDD	No changing attributes.
1799-02	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-01	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
1799-15	INDUSTRIAL PROCESS COOLING TOWERS	N/A	R5761-1	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).
1799-15	INDUSTRIAL PROCESS COOLING TOWERS	N/A	R5761-2	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).
1799-25	FUGITIVE EMISSION UNITS	N/A	R5780-ALL	30 TAC Chapter 115, HRVOC Fugitive Emissions	No changing attributes.
1799-25	FUGITIVE EMISSION UNITS	N/A	R5352-ALL	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
1799-25	FUGITIVE EMISSION UNITS	N/A	60DDD-ALL	40 CFR Part 60, Subpart DDD	No changing attributes.
FS-9004	FLARES	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FS-9004	FLARES	N/A	R5722-1	30 TAC Chapter 115, HRVOC Vent Gas	No changing attributes.
FS-9004	FLARES	N/A	60A-01	40 CFR Part 60, Subpart A	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
FS-9004-VNT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5722-01	30 TAC Chapter 115, HRVOC Vent Gas	No changing attributes.
FS-9004-VNT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-02	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
GRP-1799VT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799- 08C, 1799-08D, 1799-09, 1799-10A, 1799-10B, 1799- 10C, 1799-10D	R5722-01	30 TAC Chapter 115, HRVOC Vent Gas	Waived Testing = The executive director has not waived testing for identical vents.
GRP-1799VT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799- 08C, 1799-08D, 1799-09, 1799-10A, 1799-10B, 1799- 10C, 1799-10D	R5722-02	30 TAC Chapter 115, HRVOC Vent Gas	Waived Testing = The executive director waived testing for identical vents.
GRP-1799VT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799- 08C, 1799-08D, 1799-09, 1799-10A, 1799-10B, 1799- 10C, 1799-10D	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).
GRP-1799VT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799- 08C, 1799-08D, 1799-09, 1799-10A, 1799-09, 1799-10A,	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).

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
		1799-10B, 1799-10C, 1799-10D			
PROPE1799	POLYMER MANUFACTURING PROCESSES	N/A	60DDD-01	40 CFR Part 60, Subpart DDD	Table 2 Threshold Emission Rates = The uncontrolled emission rate is greater than the uncontrolled threshold emission rates in Table 2 of 40 CFR § 60.560., Process Emissions = Process contains vent gas streams, some of which are emitted continuously and some which are emitted intermittently., 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 0.10% or greater., Control of Continuous Emissions = All continuous emissions are controlled in an existing control device (as defined in 40 CFR § 60.561)., Continuous Control Device = Flare., Annual Emissions Entering the Control Device = Annual emissions entering the control device are greater than or equal to the calculated threshold emissions levels calculated in Table 3., Emergency Vent = Emissions are not an emergency vent stream from a new, modified, or reconstructed facility., Existing Control Device = The vent stream is controlled in an existing control device (as defined in 40 CFR ' 60.561) which has not

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					been reconstructed, replaced, or its operating conditions modified as a result of state or local regulations., Intermittent Control Device = Flare.
PROPE1799	POLYMER MANUFACTURING PROCESSES	N/A	60DDD-05	40 CFR Part 60, Subpart DDD	Table 2 Threshold Emission Rates = The uncontrolled emission rate is less than or equal to the uncontrolled threshold emission rates in Table 2 of 40 CFR § 60.560., 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)., Control of Continuous Emissions = Vent gas stream emissions are not controlled with an existing control device (as defined in 40 CFR § 60.561).
PROPE1799	POLYMER MANUFACTURING PROCESSES	N/A	60DDD-06	40 CFR Part 60, Subpart DDD	Table 2 Threshold Emission Rates = The uncontrolled emission rate is less than or equal to the uncontrolled threshold emission rates in Table 2 of 40 CFR § 60.560., Process Emissions = Individual vent gas streams emit continuous emissions., Weight Percent TOC = Weight percent of total organic compounds is less than 0.10%., Control of Continuous Emissions = Vent gas stream emissions are not controlled with an existing control device (as defined in 40 CFR § 60.561).

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
PROPE1799	POLYMER MANUFACTURING PROCESSES	N/A	60DDD-07	40 CFR Part 60, Subpart DDD	Table 2 Threshold Emission Rates = The uncontrolled emission rate is less than or equal to the uncontrolled threshold emission rates in Table 2 of 40 CFR § 60.560., Process Emissions = Process contains vent gas streams, some of which are emitted continuously and some which are emitted intermittently., Control of Continuous Emissions = Vent gas stream emissions are not controlled with an existing control device (as defined in 40 CFR § 60.561)., Emergency Vent = Emissions are an emergency vent stream from a new, modified, or reconstructed facility.
SMALLTK	STORAGE TANKS/VESSELS	N/A	R5112-01	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
SYS-9006	SRIC ENGINES	N/A	R7ICI-01	30 TAC Chapter 117, Subchapter B	No changing attributes.
SYS-9006	SRIC ENGINES	N/A	60III-1	40 CFR Part 60, Subpart IIII	No changing attributes.
SYS-9006	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
UNLOAD	LOADING/UNLOADING OPERATIONS	N/A	R5212-01	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia., Vapor Tight = Not all liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.
UNLOAD	LOADING/UNLOADING	N/A	R5212-02	30 TAC Chapter 115,	True Vapor Pressure = True vapor

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	OPERATIONS			Loading and Unloading of VOC	pressure less than 0.5 psia.

### 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)
1799-01	EU	R7ICI-01	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(B) § 117.310(c)(3)	CO emissions must not exceed 400 ppmv at 3.0% O <sub>2</sub> , dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.8000(b) § 117.8000(c) § 117.8000(c)(2) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) ** See Periodic Monitoring Summary	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7)
1799-01	EU	R7ICI-01	NO <sub>x</sub>	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(8)(A)(ii) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(2)(C) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO <sub>x</sub> emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(a) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.340(p)(2)(A) § 117.340(p)(2)(B) § 117.340(p)(2)(C) § 117.8000(b) § 117.8000(c) § 117.8000(c)(1) § 117.8000(c)(3) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d)	§ 117.345(a) § 117.345(f) § 117.345(f)(1) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) § 117.340(p)(2)(D) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7)
1799-01	EU	63DDDDD	112(B)	40 CFR Part 63,	§ 63.7505	The permit holder shall	The permit holder	The permit holder shall	The permit holder shall



### 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	HAPS	Subpart DDDDD	The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart DDDDD	comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD	shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart DDDDD	comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart DDDDD	comply with the applicable reporting requirements of 40 CFR Part 63, Subpart DDDDD
1799-02	EP	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(3)(A) [G]§ 115.122(a)(4) § 115.127(a)(3)	A vent gas stream having a combined weight of VOC < 100 lb (45.4 kg) in any continuous 24-hour period is exempt from the requirements of §115.121(a)(2)(B)-(E) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
1799-02	EP	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(3)(C) [G]§ 115.122(a)(4) § 115.127(a)(3)	A vent gas stream from the specified manufacturing processes with a VOC concentration less than 408 ppmv is exempt from the requirements of §115.121(a)(2)(B)-(E).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
1799-15	EU	R5761-1	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 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)(1) § 115.764(a)(3) [G]§ 115.764(a)(6) § 115.764(c) § 115.764(g)(2)	§ 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(g) [G]§ 115.766(h) § 115.766(i)(1)	§ 115.766(i)(2)
1799-15	EU	R5761-2	Highly Reactive	30 TAC Chapter 115, HRVOC	§ 115.761(c)(1) § 115.761(c)(3)	HRVOC emissions at each site located in Harris County	§ 115.764(a)(3) [G]§ 115.764(a)(6)	§ 115.766(a)(1) § 115.766(a)(2)	§ 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)
			VOC	Cooling Towers	§ 115.766(i)	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(c) § 115.764(e)(1)	§ 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)	
1799-25	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)	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)
					§ 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1) § 115.787(g)				
1799-25	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)	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)

### 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) § 115.787(b)(1) § 115.787(g)				
1799-25	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) § 115.787(b)(1) § 115.787(g)	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)
1799-25	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) § 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)	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 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)(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) [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)

### 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)
1799-25	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)	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)
1799-25	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 (g) of this title (relating to Record keeping Requirements).	None	§ 115.786(e) § 115.786(g)	None
1799-25	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)	Process drains within a petroleum refinery; synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing	§ 115.354(1) § 115.354(10) § 115.354(5) § 115.354(6) § 115.354(9)	§ 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3)	[G]§ 115.782(c)(1)(B)(i) [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(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)(iii)(I) § 115.783(4)(A)(iii)(II) § 115.783(4)(B) § 115.783(4)(B)(i) § 115.783(4)(B)(ii)	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.	§ 115.781(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)	§ 115.356(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)	
1799-25	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, or in a waste stream is subject to the requirements of this division. A leak is defined as a screening concentration greater than	§ 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) § 115.781(b)(8) § 115.781(e) § 115.781(d) § 115.781(g)(1)	§ 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)	[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)	500 ppmv above background as methane for all components.	§ 115.781(g)(2) § 115.782(d)(2)	§ 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)	
1799-25	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)	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	§ 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)	§ 115.782(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)
					§ 115.788(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)	components.		§ 115.786(e) § 115.786(g) [G]§ 115.788(g)	
1799-25	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

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							§ 115.781(g)(1) § 115.781(g)(2) § 115.782(d)(2) § 115.789(1)(B)	§ 115.786(g)	
1799-25	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) § 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) § 115.782(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) § 115.783(3)(C) [G]§ 115.786(c)

### Applicable Requirements Summary

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1799-25	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) § 115.783(3) [G]§ 115.783(3)(A) [G]§ 115.783(3)(B) § 115.787(b) § 115.787(b)(1)	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 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) § 115.782(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) § 115.783(3)(C) [G]§ 115.786(c)
1799-25	EU	R5780-ALL	Highly Reactive VOC	30 TAC Chapter 115, HRVOC Fugitive Emissions	§ 115.781(b)(9) § 115.780(b) [G]§ 115.781(a)	Agitators within a petroleum refinery; synthetic organic chemical, polymer, resin, or	§ 115.354(1) § 115.354(10) § 115.354(5)	§ 115.354(10) § 115.356 [G]§ 115.356(1)	[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)
					§ 115.781(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)	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(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(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)	
1799-25	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)	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	§ 115.354(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)(D) § 115.354(13)(E) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A)	[G]§ 115.358(g) [G]§ 115.782(c)(1)(B)(i) [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(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)	§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(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)	§ 115.356(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)	
1799-25	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)	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,	§ 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)	§ 115.354(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)	§ 115.782(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)
					115.782(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) § 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)(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(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)	
1799-25	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	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)
						requirements of this division except §115.356(3)(C) of this title.			
1799-25	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(5)	Reciprocating compressors and positive displacement pumps used in natural gas/gasoline processing operations are exempt from the requirements of this division except §115.356(3)(C) of this title.	None	§ 115.356 § 115.356(3) [G]§ 115.356(3)(C)	None
1799-25	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
1799-25	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
1799-25	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	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)
						except §115.356(3)(C) of this title.			
1799-25	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(2) § 115.352(9)	Each pressure relief valve equipped with a rupture disk must comply with §115.352(9) and §115.356(3)(C).	None	§ 115.356 § 115.356(3) [G]§ 115.356(3)(C)	None
1799-25	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)
1799-25	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



### 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)
1799-25	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)	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(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) § 115.356(3)(A) § 115.356(3)(B) § 115.356(5)	None
1799-25	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)
1799-25	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)

### 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)
1799-25	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 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)
1799-25	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 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(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)
1799-25	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(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)
					§ 115.352(7) § 115.357(1) § 115.357(8) § 115.357(9)	sight, smell, or sound.			
1799-25	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)
1799-25	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(1) § 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(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
1799-25	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)	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	§ 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(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)	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(8) § 115.357(12) § 115.357(8)	background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.357(1)	[G]§ 115.356(3)(C) § 115.356(5)	
1799-25	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(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
1799-25	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(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(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
1799-25	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(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	§ 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(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)	500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.357(1)	§ 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
1799-25	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(3) § 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
1799-25	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
1799-25	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days	§ 115.354(1) § 115.354(2) § 115.354(5)	§ 115.352(7) § 115.356 [G]§ 115.356(1)	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) § 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)	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(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	[G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5)	
1799-25	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 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(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
1799-25	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)	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

### 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)				
1799-25	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 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
1799-25	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
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-2 [G]§ 60.482-9 § 60.562-2(d) § 60.562-2(e)	Comply with the requirements as stated in §60.482-2 for pumps in light-liquid service.	[G]§ 60.482-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[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)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(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)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-3 [G]§ 60.482-9 § 60.562-2(d) § 60.562-2(e)	Comply with the requirements as stated in §60.482-3 for compressors.	[G]§ 60.482-3 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[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)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-4 [G]§ 60.482-9 § 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.	[G]§ 60.482-4 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(3) [G]§ 60.486(e)(4) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-5 [G]§ 60.482-9 § 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)	[G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-6 [G]§ 60.482-9 § 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)	[G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-7 [G]§ 60.482-9 [G]§ 60.483-1 [G]§ 60.483-2	Comply with the requirements in as stated in §60.482-7 for valves in gas/vapor or light-liquid service.	[G]§ 60.482-7 [G]§ 60.483-1 [G]§ 60.483-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d)	[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)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(d) § 60.487(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)
					§ 60.562-2(b) § 60.562-2(d) § 60.562-2(e)		[G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(f) [G]§ 60.486(g) § 60.486(j)	
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-8 [G]§ 60.482-9 § 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.	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-8 [G]§ 60.482-9 § 60.562-2(d) § 60.562-2(e)	Comply with the requirements in as stated in §60.482-8 for valves in heavy-liquid service.	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-8 [G]§ 60.482-9 § 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 service.	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-8 [G]§ 60.482-9 § 60.562-2(d) § 60.562-2(e)	Comply with the requirements in as stated in §60.482-8 for flanges or other connectors.	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e) § 60.565(l)
1799-25	EU	60DDD-ALL	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-2(a) § 60.482-1(d) § 60.562-2(e)	Comply with the requirements as stated in §60.482-1(d) for equipment in vacuum service.	None	§ 60.486(e) § 60.486(e)(1) § 60.486(e)(5)	§ 60.562-2(e)
FS-9004	EU	R1111-1	Opacity	30 TAC Chapter	§ 111.111(a)(4)(A)	Visible emissions from a	§	§ 111.111(a)(4)(A)(ii)	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)
				111, Visible Emissions		process gas flare shall not be permitted for more than five minutes in any two-hour period, except for upset emissions as provided in §101.222(b).	111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)		
FS-9004	EP	R5722-1	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-9004	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)(5)	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)(6)	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)
					§ 60.18(c)(6) § 60.18(e)				
FS-9004-VNT	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)
FS-9004-VNT	EP	R5121-02	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(2) § 115.121(a)(2) § 115.122(a)(2)(A) § 60.18	Any vent gas streams affected by §115.121(a)(2) of this title must be controlled properly with a control efficiency of at least 98% or to a VOC concentration of no more than 20 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(7) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2)	None
GRP-1799VT	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)
GRP-1799VT	EP	R5722-02	Highly Reactive	30 TAC Chapter 115, HRVOC Vent	§ 115.722(c)(1) § 115.722(c)(3)	HRVOC emissions at each site located in Harris County	§ 115.725(a) § 115.725(a)(1)(A)	§ 115.726(b)(1) § 115.726(b)(2)	[G]§ 115.725(a)(4) § 115.725(a)(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)
			VOC	Gas	§ 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)	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)(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)(3) [G]§ 115.726(h) § 115.726(i) § 115.726(j)(1) § 115.726(j)(2)	[G]§ 115.725(a)(7)(A) § 115.725(a)(7)(B) § 115.725(n) [G]§ 115.726(a)(2)
GRP-1799VT	EP	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(3)(C) [G]§ 115.122(a)(4) § 115.127(a)(3)	A vent gas stream from any liquid phase polypropylene manufacturing process, any liquid phase slurry high-density polyethylene manufacturing process, and any continuous polystyrene manufacturing process with a concentration of VOC less than 408 ppmv is exempt from §115.121(a)(2)(B)-(E) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
GRP-1799VT	EP	R5121-02	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(3)(A) [G]§ 115.122(a)(4) § 115.127(a)(3)	A vent gas stream having a combined weight of VOC equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(2)(B)-(E) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
GRP-1799VT	EP	R5121-02	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(3)(C) [G]§ 115.122(a)(4) § 115.127(a)(3)	A vent gas stream from any liquid phase polypropylene manufacturing process, any liquid phase slurry high-density polyethylene manufacturing process, and any continuous polystyrene	[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)
						manufacturing process with a concentration of VOC less than 408 ppmv is exempt from §115.121(a)(2)(B)-(E) of this title.			
PROPE1799	EU	60DDD-01	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-1(a)(1) § 60.18 § 60.562-1(a)(1)(i) § 60.562-1(a)(1)(i)(C) § 60.562-1(a)(1)(iii) § 60.562-1(a)(1)(iii)(A) § 60.562-1(d) § 60.562-1(e)	For each vent stream that emits continuous emissions from affected facility, use procedures in paragraphs (a)(1)(ii)-(iii) for determining which continuous emissions to control as specified.	[G]§ 60.563(a) § 60.563(b) § 60.563(b)(2)(i) § 60.563(c) § 60.563(d)(1) § 60.563(d)(2) § 60.564(a) § 60.564(a)(1) § 60.564(a)(3) [G]§ 60.564(d) [G]§ 60.564(e) [G]§ 60.564(f) [G]§ 60.564(g) ** See CAM Summary	[G]§ 60.563(a) § 60.563(d)(1) § 60.565(a) [G]§ 60.565(a)(3) [G]§ 60.565(b)(2) [G]§ 60.565(e) [G]§ 60.565(g) § 60.565(j)	§ 60.565(a) [G]§ 60.565(a)(3) § 60.565(b)(1) § 60.565(i) § 60.565(j) § 60.565(k) § 60.565(k)(2) § 60.565(k)(4) § 60.565(l)
PROPE1799	EU	60DDD-01	VOC/TOC	40 CFR Part 60, Subpart DDD	§ 60.562-1(a)(2)	Each vent stream that emits intermittent emissions as defined in §60.560-1(a)(1) shall be controlled as specified; prior to control modification/reconstruction/replacement, the vent stream is exempted.	None	None	None
PROPE1799	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 % 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)

### 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)
PROPE1799	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)
PROPE1799	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
SMALLTK	EU	R5112-01	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
SYS-9006	EU	R7ICI-01	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	None	§ 117.340(j) [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)
						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)			
SYS-9006	EU	60III-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) § 60.4211(c) [G]§ 60.4211(f) § 60.4211(g) § 60.4211(g)(2) § 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).	§ 60.4211(g)(2) [G]§ 60.4212	§ 60.4211(g)(2)	[G]§ 60.4214(d)
SYS-9006	EU	60III-1	NMHC and NO <sub>x</sub>	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) § 60.4211(c) [G]§ 60.4211(f) § 60.4211(g) § 60.4211(g)(2) § 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 75 KW and less than or equal to 560 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 <sub>x</sub> emission limit of 4.0 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4211(g)(2) [G]§ 60.4212	§ 60.4211(g)(2)	[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)
SYS-9006	EU	60III-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) § 60.4211(c) [G]§ 60.4211(f) § 60.4211(g) § 60.4211(g)(2) § 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 PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4211(g)(2) [G]§ 60.4212	§ 60.4211(g)(2)	[G]§ 60.4214(d)
SYS-9006	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None
UNLOAD	EU	R5212-01	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)(ii)	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)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(iii)	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)
					§ 115.212(a)(3)(B) [G]§ 115.212(a)(3)(C) § 115.212(a)(3)(D) § 115.214(a)(1)(B) § 115.214(a)(1)(C)		115.214(a)(1)(A)(ii) § 115.214(a)(1)(A)(iii)		
UNLOAD	EU	R5212-02	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

**Additional Monitoring Requirements**

<b>Compliance Assurance Monitoring Summary .....</b>	<b>57</b>
<b>Periodic Monitoring Summary .....</b>	<b>59</b>

### CAM Summary

Unit/Group/Process Information	
ID No.: FS-9004-VNT	
Control Device ID No.: FS-9004	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-02
Pollutant: VOC	Main Standard: § 115.122(a)(2)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Hourly	
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. If pilot flame is absent, as indicated by both monitoring devices and visual indication, it should be considered a deviation.</p> <p>CAM Text: 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>Maintain records of events when pilot flame is absent and duration of events.</p> <p>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>	

### CAM Summary

Unit/Group/Process Information	
ID No.: PROPE1799	
Control Device ID No.: FS-9004	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 40 CFR Part 60, Subpart DDD	SOP Index No.: 60DDD-01
Pollutant: VOC/TOC	Main Standard: § 60.562-1(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: 4 times an hour	
Averaging Period: Once an hour	
Deviation Limit: Absence of pilot flame. If all monitoring devices indicate absence of pilot flame, it should be confirmed visually. If pilot flame is absent, as indicated by both monitoring devices and visual indication, it should be considered a deviation.	
<p>CAM Text: 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>Maintain records of events when pilot flame is absent and duration of events.</p> <p>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>	

### Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 1799-01	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 117, Subchapter B	SOP Index No.: R7ICI-01
Pollutant: CO	Main Standard: § 117.310(c)(1)
Monitoring Information	
Indicator: CO Concentration	
Minimum Frequency: Annually	
Averaging Period: Block one-hour average	
Deviation Limit: Maximum CO concentration shall not exceed 400 ppmv at 3.0% O <sub>2</sub> on a block one-hour average.	
<p>Periodic Monitoring Text: Conduct monitoring annually following methods prescribed in §117.8120(2), as applicable. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent (measurements may be either on a dry or wet basis, as long as it is the same basis). Measurements may be taken using a portable CO analyzer. Measurements will be averaged to comprise a one-hour block average to demonstrate compliance. Any block one-hour average above the concentration limit will be considered a deviation. For annual periods when monitoring is conducted to comply with 40 CFR 63 Subpart DDDDD, the CO monitoring conducted to comply with 40 CFR 63 Subpart DDDDD is deemed as sufficient and additional annual CO monitoring is not required.</p>	

### Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: 1799-01	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 117, Subchapter B	SOP Index No.: R7ICI-01
Pollutant: CO	Main Standard: § 117.310(c)(1)
Monitoring Information	
Indicator: CO Concentration	
Minimum Frequency: Biennially (every 2 years)	
Averaging Period: Block one-hour average	
Deviation Limit: Maximum CO concentration shall not exceed 400 ppmv at 3.0% O <sub>2</sub> on a block one-hour average.	
<p>Periodic Monitoring Text: For boilers or process heaters with a heat input capacity of less than 10 MMBtu/hr but greater than 5 MMBtu/hr, you must conduct a tune-up biennially (every 2 years) as specified in 40 CFR 63 Subpart DDDDD, §63.7540(a)(11) and §63.7540(a)(10)(i)-(vi) to demonstrate continuous compliance. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. Measurements will be averaged to comprise a one-hour block average to demonstrate compliance. Any block one-hour average above the concentration limit will be considered a deviation.</p>	

**Permit Shield**

**Permit Shield ..... 62**

### 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		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
1799-04	N/A	30 TAC Chapter 115, Vent Gas Controls	The vent stream does not contain VOC's
1799-15	N/A	40 CFR Part 63, Subpart Q	Cooling tower does not use chromium-based water treatment chemicals.
FS-9004	N/A	40 CFR Part 61, Subpart A	Flare not used as a control device to comply with NESHAP.
FS-9004	N/A	40 CFR Part 63, Subpart A	Flare not used as a control device to comply with MACT.
PROPE1799	N/A	40 CFR Part 63, Subpart FFFF	The source is not part of a MCPU since the PEU 1799 operating unit does not use, process or generate any of the organic HAP listed in section 112(b) of the CAA or hydrogen halide and halogen HAP, as defined in 40 CFR §60.2550.
VE-4001	N/A	40 CFR Part 60, Subpart RRR	Reactor process is subject to the requirement of NSPS DDD, therefore not an affected facility
VE-9031	N/A	40 CFR Part 60, Subpart Kb	Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.



**New Source Review Authorization References**

<b>New Source Review Authorization References .....</b>	<b>64</b>
<b>New Source Review Authorization References by Emission Unit .....</b>	<b>65</b>

### 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.

<b>Nonattainment (NA) Permits</b>	
NA Permit No.: N224	Issuance Date: 09/28/2023
NA Permit No.: N298	Issuance Date: 09/28/2023
<b>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.</b>	
Authorization No.: 135086	Issuance Date: 09/28/2023
Authorization No.: 46305	Issuance Date: 09/28/2023
Authorization No.: 83791	Issuance Date: 09/28/2023
<b>Permits By Rule (30 TAC Chapter 106) for the Application Area</b>	
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
Number: 106.532	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**
1799-01	H-1001, CATALYST ACTIVATOR HEATER	46305, N298
1799-02	ACTIVATOR KNOCKOUT POT VENT FTLR	46305, N298
1799-04	CATALYST CHARGE LINE VENT FILTER	46305, N298
1799-05	EXTRUDER/ADDITIVES VENT FILTER	46305, N298
1799-06	PELLET DRYER EXHAUST	46305, N298
1799-07	SCALPING SCREEN SURGE HOPPER	46305, N298
1799-08A	PELLET SILO-TANK VENT FILTER	46305, N298
1799-08B	PELLET SILO-TANK VENT FILTER	46305, N298
1799-08C	PELLET SILO-TANK VENT FILTER	46305, N298
1799-08D	PELLET SILO-VENT TANK FILTER	46305, N298
1799-09	PELLET LOADOUT HOPPER VENT FILTER	46305, N298
1799-10A	HOPPER CAR LOADING VENT FILTER	46305, N298
1799-10B	HOPPER CAR LOADING VENT FILTER	46305, N298
1799-10C	HOPPER CAR LOADING VENT FILTER	46305, N298
1799-10D	HOPPER CAR LOADING VENT FILTER	46305, N298
1799-15	COOLING TOWER	46305, N298
1799-25	PROCESS FUGITIVES	46305, N298, 106.261/11/01/2003 [118637, 131650, 139886, 154368, 156170, 160762], 106.262/11/01/2003 [154368, 156170, 160762]
FS-9004	PROCESS VENT FLARE	135086, 46305, N224, N298
FS-9004-VNT	VENT HEADER TO FLARE FS-9004	46305, N298

### 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**
PROPE1799	POLYETHYLENE UNIT PEU 1799 MANUFACTURING PROCESS	46305, N298
SMALLTK	SMALL TANK	106.472/09/04/2000
SYS-9006	EMERGENCY GENERATOR FOR BL-9006A/B	106.511/09/04/2000
UNLOAD	UNLOADING	46305, N298
VE-4001	REACTOR	46305, N298
VE-9031	ISOBUTANE STORAGE TANK	46305, N298

\*\*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.

## **Schedules**

<b>Compliance Schedule .....</b>	<b>68</b>
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## Compliance Schedule

<b>A. Compliance Schedule</b>				
<b>1. Specific Non-Compliance Situation</b>				
Unit/Group/ Process ID. No(s).	SOP Index No.	Pollutant	Applicable Requirement	
			Citation	Text Description
1799-01	N/A	NOx	NSR 46305 30 TAC § 116.115 30 TAC § 116.116	New Source Review Permits
<b>2. Compliance Status Assessment Method and Records Location</b>				
Compliance Status Assessment Method			Location of Records/Documentation	
Citation	Text Description			
NSR 46305 30 TAC § 116.115 30 TAC § 116.116	NSR permit emission authorizations and application representations		Environmental Records	
<b>3. Non-compliance Situation Description</b>				
Discrepancies exist between stack test information and the BACT permit application representations for the NOx lb/MMBTU emission rate at 1799-01 (H-1001).				
<b>4. Corrective Action Plan Description</b>				
Evaluate BACT demonstration against equipment design.				
<b>5. List of Activities/Milestones to Implement the Corrective Action Plan</b>				
1	Review burner design, conduct emissions testing as needed, and develop corrective action plan by 12/31/2021.			
2	Implement corrective action plan per identified schedule.			
6. Previously Submitted Compliance Plan(s)		Type of Action		Date Submitted
		N/A		N/A
7. Progress Report Submission Schedule		Progress report will be submitted with semi-annual Title V reports.		

**Appendix A**

**Acronym List ..... 70**

## 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 <sub>2</sub> 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 <sub>x</sub>	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 <sub>2</sub>	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 ..... 72**

**Major NSR Summary Table**

Permit Numbers: 135086 & 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
		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<sub>x</sub> - 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.

**Major NSR Summary Table**

Permit Numbers: 46305 and N298					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
1799-01	Catalyst Activator Heater	VOC	0.03	0.14	4	4	4
		CO	0.49	2.16			
		NO <sub>x</sub>	0.36	1.58			
		PM	0.04	0.20			
		PM <sub>10</sub>	0.04	0.20			
		PM <sub>2.5</sub>	0.04	0.20			
		SO <sub>2</sub>	0.08	0.37			
1799-02	Activator Knockout Pot Vent Filter	VOC	0.39	0.37	12	12	
		PM	0.04	<0.01			
		PM <sub>10</sub>	0.04	<0.01			
		PM <sub>2.5</sub>	0.04	<0.01			
1799-04	Catalyst Charge Line Vent Filter	PM	0.02	<0.01	12	12	
		PM <sub>10</sub>	0.02	<0.01			
		PM <sub>2.5</sub>	0.02	<0.01			

**Major NSR Summary Table**

Permit Numbers: 46305 and N298					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
1799-05	Extruder/Additives Vent Filter	PM	0.02	0.08	12	12	
		PM <sub>10</sub>	0.02	0.08			
		PM <sub>2.5</sub>	0.02	0.08			
1799-07	Scalping Screen Surge Hopper	PM	<0.01	<0.01	12	12	
		PM <sub>10</sub>	<0.01	<0.01			
		PM <sub>2.5</sub>	<0.01	<0.01			
PELLET (1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799-08C, 1799-08D, 1799-09, 1799-10A, 1799-10B, 1799-10C, 1799-10D)	Pellet Storage and Loading (6)	VOC	11.2	17.74	3, 13, 14	3, 13, 14	3, 14
1799-08A	Pellet Storage and Loading	PM	0.16	<0.01	12	12	
		PM <sub>10</sub>	0.16	<0.01			

**Major NSR Summary Table**

Permit Numbers: 46305 and N298					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
		PM <sub>2.5</sub>	0.16	<0.01			
1799-08B	Pellet Storage and Loading	PM	0.16	<0.01	12	12	
		PM <sub>10</sub>	0.16	<0.01			
		PM <sub>2.5</sub>	0.16	<0.01			
1799-08C	Pellet Storage and Loading	PM	0.16	<0.01	12	12	
		PM <sub>10</sub>	0.16	<0.01			
		PM <sub>2.5</sub>	0.16	<0.01			
1799-08D	Pellet Storage and Loading	PM	0.16	<0.01	12	12	
		PM <sub>10</sub>	0.16	<0.01			
		PM <sub>2.5</sub>	0.16	<0.01			
1799-09	Pellet Storage and Loading	PM	0.32	<0.01	12	12	
		PM <sub>10</sub>	0.32	<0.01			
		PM <sub>2.5</sub>	0.32	<0.01			
1799-10A	Pellet Storage and	PM	0.16	0.03	12	12	

**Major NSR Summary Table**

Permit Numbers: 46305 and N298					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
	Loading	PM <sub>10</sub>	0.16	0.03			
		PM <sub>2.5</sub>	0.16	0.03			
1799-10B	Pellet Storage and Loading	PM	0.16	0.03	12	12	
		PM <sub>10</sub>	0.16	0.03			
		PM <sub>2.5</sub>	0.16	0.03			
1799-10C	Pellet Storage and Loading	PM	0.16	0.03	12	12	
		PM <sub>10</sub>	0.16	0.03			
		PM <sub>2.5</sub>	0.16	0.03			
1799-10D	Pellet Storage and Loading	PM	0.16	0.03	12	12	
		PM <sub>10</sub>	0.16	0.03			
		PM <sub>2.5</sub>	0.16	0.03			
1799-15	Cooling Tower (5)	VOC	1.20	3.70	7, 8	7, 8	
		PM	0.51	2.25			
		PM <sub>10</sub>	0.51	2.25			

**Major NSR Summary Table**

Permit Numbers: 46305 and N298					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
		PM <sub>2.5</sub>	0.16	0.72			
1799-20	Process Vent Flare	VOC	250.13	16.24	11, 15, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32	11, 15, 19, 21, 22, 24, 25, 26, 27, 30, 32, 33	15, 27
		CO	436.80	75.67			
		NO <sub>x</sub>	105.69	9.29			
		SO <sub>2</sub>	2.26	1.13			
1799-25	Process Fugitives (5)	VOC	1.37	6.00	3, 5, 6	3, 5, 6	3

- (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<sub>x</sub> - total oxides of nitrogen  
 SO<sub>2</sub> - sulfur dioxide  
 PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
 PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented  
 PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
 CO - carbon monoxide
- (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) The maximum allowable emission rates for VOC pellet storage and loading area emissions are for the emission points as a group.



## 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)]<sup>1</sup>
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)]<sup>1</sup>
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.<sup>1</sup>

<sup>1</sup> 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 <sub>2</sub> CO = formaldehyde
µg/m <sup>3</sup> = microgram per cubic meter	H <sub>2</sub> S = hydrogen sulfide
acfm = actual cubic feet per minute	H <sub>2</sub> SO <sub>4</sub> = 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 <sub>2</sub> 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 <sup>3</sup> = 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 <sub>x</sub> = 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 <sub>max</sub> = 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 PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
PM<sub>2.5</sub> = particulate matter equal to or less than 2.5 microns in diameter  
PM<sub>10</sub> = total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, 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  
SO<sub>2</sub> = 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 1<sup>st</sup>, 2016 to December 31<sup>st</sup>, 2016, 44.7 tons of DERs from credit certificate No. D3247 will be used to meet the requirement of Special Condition No. 10.
  - B. For the period between October 12<sup>th</sup>, 2017 to December 31<sup>st</sup>, 2017, 44.7 tons of DERs 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.

<b>Unit Name * / Facility Identification No. (FIN)</b>	<b>Associated Permit No.</b>	<b>Flare Identification</b>	<b>Flare FIN / Emission Point No. (EPN)</b>
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<sub>x</sub> - 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



## 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 29.8175 Longitude -94.933888*

Permits: 46305 and N298

Revision Date: September 28, 2023

Expiration Date: April 13, 2031

  
\_\_\_\_\_  
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)]<sup>1</sup>
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)]<sup>1</sup>
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.<sup>1</sup>

<sup>1</sup> 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 <sub>2</sub> CO = formaldehyde
µg/m <sup>3</sup> = microgram per cubic meter	H <sub>2</sub> S = hydrogen sulfide
acfm = actual cubic feet per minute	H <sub>2</sub> SO <sub>4</sub> = 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 <sub>2</sub> 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 <sup>3</sup> = 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 <sub>x</sub> = 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 <sub>max</sub> = 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 PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
PM<sub>2.5</sub> = particulate matter equal to or less than 2.5 microns in diameter  
PM<sub>10</sub> = total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, 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  
SO<sub>2</sub> = 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 Number 46305 and N298

### Emission Standards

1. This permit covers only those sources of emissions listed in the attached table entitled Emission Sources - Maximum Allowable Emission Rates, and those sources are limited to the emission limits and other conditions specified in that attached table.

### Federal Applicability

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. 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 with the exception of the equipment listed below: **(04/21)**
  - a) Process Safety Valve PSV81015 with Rupture Disk PSE81027, from Reactor RX4001;
  - b) Process Safety Valve PSV81017 with Rupture Disk PSE81028, from Reactor RX4001;
  - c) Process Safety Valve PSV81019 with Rupture Disk PSE81020, from Reactor RX4001;
  - d) Process Safety Valve PSV81023 with Rupture Disk PSE81014, from Reactor RX4001.

### 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): **(04/21)**
  - 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.
4. These facilities shall comply with all applicable requirements of the U.S. EPA regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63: **(04/21)**
  - a) Subpart A, General Provisions.
  - b) Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial for Institutional, Commercial, and Industrial Boilers and Process Heaters.

### Fugitives

**Piping, Valves, Connectors, Pumps, Agitators, and Compressors in VOC Service – 28VHP**

5. Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment:
- a) These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pound per square inch gauge at 68°F, or (2) where the operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list to be made available upon request.
  - b) Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standard 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.
  - 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. Non-accessible valves, as defined by Title 30 Texas Administrative Code (30 TAC) Chapter 115, shall be identified in a list to be made available upon request.
  - e) New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. No later than the next scheduled quarterly monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically tested at no less than normal operating pressure and adjustments 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 a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.
  - 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. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

An approved gas analyzer shall conform to requirements listed in 40 CFR § 60.485(a)-(b).

Replaced components (i.e., valves, connectors, pumps and compressors) shall be remonitored 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 and compressor 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 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 and compressor 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. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown, 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. At the discretion of the Texas Commission on Environmental Quality (TCEQ) Executive Director or his designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.
- i) The results of the required fugitive instrument monitoring and maintenance program shall be made available to the TCEQ Executive Director or his designated representative upon request. Records shall indicate appropriate dates, test methods, instrument readings, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of physical inspections are not required unless a leak is detected.
- j) 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 Paragraphs F through G of this condition.
- k) 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.

#### **Connectors (Flanges) in VOC Service - 28CNTQ**

- 6. In addition to the weekly physical inspection required by Paragraph E of Special Condition No. 5, all accessible connectors in gas/vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Paragraphs F through I of Special Condition No. 5.
  - a) Allowance for reduced monitoring frequencies:
    - i. The frequency of monitoring may be reduced from quarterly to semiannually if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.
    - ii. 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.

- b) 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:

$(C1 + Cs) \times 100 / Ct = Cp$  Where:

C1 = 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.

### Cooling Tower

- 7. The cooling tower, (EPN 1799-15) and heat exchanger system shall be operated and monitored in accordance with the following: **(04/21)**
  - a) The cooling tower water shall be monitored at least monthly for VOC leakage from heat exchangers in accordance with the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or another air stripping method approved by the TCEQ Executive Director.
  - b) Cooling tower water VOC concentrations above 0.8 ppmw indicate faulty heat exchange equipment. Equipment shall be maintained so as to minimize VOC leaks into the cooling water. 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.

Emissions from the cooling tower are not authorized if the VOC concentration of the water returning to the cooling tower exceeds 0.8 ppmw. The VOC concentrations above 0.8 ppmw are not subject to extensions for delay of repair under this permit condition. The results of the monitoring and maintenance efforts shall be recorded.

### PM Monitoring for Cooling Tower

- 8. The cooling tower (EPN 1799-15) shall be operated and monitored in accordance with the following: **(04/21)**
  - a) Each cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.001% drift or less. Drifts eliminators shall be maintained and inspected at least annually. The permit holder shall maintain records of all inspections and repairs.

- b) Total dissolved solids (TDS) shall not exceed 3,000 parts per million by weight (ppmw). Dissolved solids in the cooling water drift are considered to be emitted as PM, PM<sub>10</sub>, and PM<sub>2.5</sub> as represented in the permit application calculations.
- c) Cooling water shall be sampled at least once per week for TDS.
- d) Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.
  - i. The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, or 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.
  - ii. Alternate sampling and analysis methods may be used to comply with D(1) with written approval from the TCEQ Regional Director.
  - iii. Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.
- e) Emission rates of PM, PM<sub>10</sub> and PM<sub>2.5</sub> 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.

#### Operational Limitations

- 9. Annual production from these facilities is limited to 1183 million (MM) pounds (lbs) of high density homopolymer and/or copolymer polyethylene product per year. The maximum hourly polyethylene fluff rate to the extruder will be 140,000 lbs per hour. **(04/21)**

#### Heater

- 10. The catalyst activator heater (EPN 1799-01, H-1001) shall be fired with natural gas containing no more than 5 grains of total sulfur per 100 dry standard cubic feet (dscf). **(07/22)**

#### Flare

- 11. The Flare FS-9006 (EPN 1799-20) shall be designed and operated in accordance with the following requirements:
  - a) The flare systems shall be designed such that the combined fuel gas and waste stream to each 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 and flare flame shall be

recorded. Each monitoring device shall be accurate to and shall be calibrated 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 air 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 annually 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 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.

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  $\pm 5.0$  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 calendar year. 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 TCEQ guidance effective when during the time of the permit renewal and amendment application, PI-1 dated November 5, 2020.

- e) Fuel gas combusted in the flare shall be sweet natural gas containing no more than 5 grains of total sulfur per 100 dry standard cubic feet.
- f) The flare shall operate in accordance with Special Condition 11, Special Conditions 18 through 33, and Attachment A of these Special Conditions. Special Conditions 18 through 33 and Attachment A 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 Condition 11, Special Conditions 18 through 33, and Attachment A., then the most stringent requirement shall apply. **(09/23)**

#### **Vent filters/Baghouses**

12. Vents emitting particulate matter shall not operate unless their control devices and the associated equipment are operational and maintained in good working order. These vents shall be designed and operated in accordance with the following requirements:
  - a) Particulate matter grain loading shall not exceed 0.01 grain per dscf of air from any vent. There shall be no visible emissions exceeding 30 seconds in any six-minute period as determined using U.S. EPA Test Method 22.
  - b) All vents will be inspected for visible emissions once per week; if a baghouse is used, a spare parts filter inventory will be maintained on site. Records shall be maintained of all inspections and maintenance performed.
  - c) The differential pressure across each baghouse shall be continuously monitored and be recorded at least once an hour. The pressure drop range shall be established using the manufacturer's recommendations, engineering calculations, historical data, or the most recent performance test data. The pressure drop range and its derivation shall be made available upon request to the Executive Director.
  - d) 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% of span.
  - e) Quality assured (or valid) data must be generated when the particulate matter vents are in operation, except during the performance of a daily zero check. Loss of valid data due to periods of monitor breakdown, 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 hours) that the vents operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded. (A.-E.; 10/10)
  - f) Emissions associated with the Catalyst Activator Knockout Pot Vent (EPN 1799-02) shall be routed to a high efficiency particulate air filter designed and operated to achieve 99.99 per cent efficiency in controlling PM and particulate matter less than or equal to 10 microns emissions.

#### **Continuous Demonstration of Compliance**

13. For pellets, total VOC emitted to the atmosphere after the extruder and before final product loading shall not exceed 30 lbs of VOC per MM lbs of product on an annual average basis. Ongoing compliance with this condition for the polymer pellet systems shall be determined by calculation using monthly production rates and monthly sampling and testing of the polymer (A) immediately after the pellet dryer, and (B) immediately before the point of final product loading. The VOC head space test or an equivalent approved by the TCEQ Compliance Support Division in Austin, will be used to determine the residual VOC. **(04/21)**

The compliance records shall include (but are not limited to):

- a) Date and time of sample.
- b) Actual plant production rate at the time of sampling and monthly average production rate.
- c) Measured total volatiles concentration (lbs/MM lbs of product) of polymer (A) after the pellet dryer, and (B) immediately before the final product is shipped. Total VOC emitted to the atmosphere between points A and B shall be calculated by (A - B) multiplied by the monthly production rate.

### Stack Sampling

14. 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 Extruder/Additives Vent (EPN 1799-05), and from the Pellet Dryer Vent (EPN 1799-06). 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 U.S. 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. **(04/21)**

- a) The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:
  - i. Proposed date for pretest meeting.
  - ii. Date sampling will occur.
  - iii. Name of firm conducting sampling.
  - iv. Type of sampling equipment to be used.
  - v. Method or procedure to be used in sampling.
  - vi. Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
  - vii. Procedure/parameters to be used to determine worst case emissions.

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 to be tested for from the Extruder/Additives Vent (EPN 1799-05), and from the Pellet Dryer Vent (EPN 1799-06) include (but are not limited to) total VOC.
- 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 maximum production rates 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, if the maximum production rate is 5.0 % greater than the maximum rate 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.

### **Compliance Assurance Monitoring**

15. The following requirements apply to capture systems for the Flare (EPN 1799-20): **(04/21)**

- a) For control of VOC, either:
- i. 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
  - ii. 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.
- b) If there is a bypass for the control device, comply with one of the following requirements:
- i. 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
  - ii. Once a month, inspect the valves, verifying that the position of the valves and the condition of the car seals prevent flow out the bypass.
  - iii. 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.

- c) 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.

#### **Offsets for 2020 Flare Amendment (TCEQ Project No. 319988)**

16. 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. **(06/22)**
  - a) The permit holder shall use 20.0 tpy of NO<sub>x</sub> credits to offset the 16.60 tpy NO<sub>x</sub> 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<sub>x</sub> emission reduction credits (ERCs) from TCEQ Certificate No. 3667, 4.1 tons per year TCEQ Certificate No. 3668, and 0.9 tons per year from TCEQ Certificate No. 3720 to offset the NO<sub>x</sub> project emission increase for facilities authorized by TCEQ NSR Project No. 319988.

#### **Permit by Rule (PBR) Authorizations Referenced**

17. 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. **(04/21)**

<b>PBR Registration No.</b>	<b>Date Authorized</b>	<b>PBR Citation</b>	<b>Affected EPN(s)</b>	<b>Description</b>
118637	05/19/2014	§106.261	1799-25	Process Fugitives
131650	06/25/2015	§106.261	1799-25	Process Fugitives
139886	06/01/2016	§106.261	1799-25	Process Fugitives
154368	12/12/2018	§106.261, §106.262	1799-25	Process Fugitives
160762	04/17/2020	§106.261	1799-25	Process Fugitives

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

18. Installation and Operation of Monitoring and Control Systems on Flare FS-9006 (EPN 1799-20). **(09/23)**
  - a) The plant site must install and commence operation of the instrumentation, controls, and monitoring systems set forth in Special Conditions 19–22 for the following Flare: Flare FS-9006 (EPN 1799-20) 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-9006 (EPN 1799-20) in accordance with Special Conditions 24-26.
- 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 19–22, 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 19–22 during all times when the Flare is In Operation and Capable of Receiving Waste, Supplemental, and/or Sweep Gas.

19. Vent Gas, Assist Steam, and Assist Air Monitoring Systems. **(09/23)**

- a) For Flare FS-9006 (EPN 1799-20), 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-9006 (EPN 1799-20). 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 each Steam-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 Steam used with each Steam-Assisted Flare. 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 Air-Assisted Flare FS-9006 (EPN 1799-20), 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 Air-Assisted Flare FS-9006 (EPN 1799-20). 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:
  - i. 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;
  - ii. 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 22.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

- iii. 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 22.a.
20. 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 each Steam-Assisted Flare in a manner sufficient to ensure compliance with these provisions. **(09/23)**
21. 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-9006 (EPN 1799-20). It is not a violation of this Special Condition or Special Condition 25, however, if a Flare video camera cannot discern the Flare Combustion Zone and/or any Smoke Emissions at Flare FS-9006 (EPN 1799-20) 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. **(09/23)**
22. Vent Gas Compositional Monitoring or Direct Monitoring of Net Heating Value of Vent Gas. For Flare FS-9006 (EPN 1799-20), 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: **(09/23)**
- 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 22.b above, and the Net Heating Value of the Vent Gas exceeds the upper calibrated span of the calorimeter on Flare FS-9006 (EPN 1799-20), 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.

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.

23. Instrumentation and Monitoring Systems: Optional Equipment. To continuously measure and calculate flow of all Pilot Gas to Flare FS-9006 (EPN 1799-20) 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. **(09/23)**
24. Instrumentation and Monitoring Systems: Specifications, Calibration, Quality Control, and Maintenance. The plant site must comply with Special Conditions 24.a through 24.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). **(09/23)**
  - a) The instrumentation and monitoring systems identified in Special Conditions 19 and 22 must:
    - i. 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;
    - ii. 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;
    - iii. Be capable of measuring the appropriate parameter over the range of values expected for that measurement location; and
    - iv. 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 19 and 22 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 22.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 19 and 22, 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 19 and 22.
25. Instrumentation and Monitoring Systems: Recording and Averaging Times. The instrumentation and monitoring systems identified in Special Conditions 19 and 21-22 must be able to produce and record data measurements and calculations for each parameter at the following time intervals: **(09/23)**

<b><u>Instrumentation and Monitoring System</u></b>	<b><u>Recording and Averaging Times</u></b>
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 22.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 22.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.

26. Instrumentation and Monitoring Systems: Operation. The plant site must operate each of the instruments and monitoring systems required by Special Conditions 19 and 21-22 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 32.a-32.d.  
(09/23)

**Flare Combustion Efficiency**

27. General Emission Standards Applicable to Flare FS-9006 (EPN 1799-20). The plant site must comply with the requirements set forth in this Special Condition at each Flare at all times when Flare FS-9006 (EPN 1799-20) is In Operation. (09/23)
- a) Operation during Emissions Venting. The plant site must operate Flare FS-9006 (EPN 1799-20) at all times when emissions may be vented to it.
  - b) No Visible Emissions. The plant site must specify, the smokeless design capacity of Flare FS-9006 (EPN 1799-20) and operate with no Visible Emissions when Flare FS-9006 (EPN 1799-20) is In Operation and the Vent Gas flow is less than the smokeless design capacity of Flare FS-9006 (EPN 1799-20), the plant site must monitor, as specified below in sub-Special Conditions 27.b.i or 27.b.ii, for Visible Emissions from Flare FS-9006 (EPN 1799-20) 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 27.b.i or 27.b.ii. 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).
    - i. 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.
    - ii. 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-9006 (EPN 1799-20) 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 30.
  - 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-9006 (EPN 1799-20). Nothing in this sub-Special Condition 27.e requires the plant site to install or maintain Flare monitoring equipment in addition to or different from the equipment required by this Permit.

28. Flare Tip Velocity or Vtip. The plant site must operate Flare FS-9006 (EPN 1799-20) in compliance with either sub-Special Condition 28.a. or 28.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-9006 (EPN 1799-20). **(09/23)**
  - 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.
29. Operation According to Design. The plant site must operate and maintain Flare FS-9006 (EPN 1799-20) in accordance with its design and the requirements of this Permit. **(09/23)**
30. Net Heating Value Standards. The plant site must comply with the following Net Heating Value standards, except as provided in Special Conditions 32 (Standard During Instrument Downtime). **(09/23)**
  - a) Net Heating Value of Combustion Zone Gas (NHVcz) for Flare FS-9006 (EPN 1799-20) At any time a Flare is In Operation, the plant site must operate Flare FS-9006 (EPN 1799-20) 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-9006 (EPN 1799-20) for at least 15 minutes. The plant site must monitor and calculate NHVcz at each Flare in accordance with Appendix 1.2.
  - b) Dilution Operating Limits for Flare FS-9006 (EPN 1799-20) with Perimeter Assist Air (NHVdil). While Air-Assisted Flare FS-9006 (EPN 1799-20) 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 Flare FS-9006 (EPN 1799-20) 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.
31. 98% Combustion Efficiency. The plant site must operate Flare FS-9006 (EPN 1799-20) 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 30.a and Air-Assisted Flare FS-9006 (EPN 1799-20) in compliance with Special Conditions 30.a and 30.b. **(09/23)**
32. 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-9006 (EPN 1799-20) in accordance with the applicable NHV standards in Special Condition 30, the plant site must operate Flare FS-9006 (EPN 1799-20) in accordance with good air pollution control practices so as to minimize emissions and ensure good combustion efficiency at Flare FS-9006 (EPN 1799-20): **(09/23)**

- 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).

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-9006 (EPN 1799-20) is 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.

33. Recordkeeping for Flare FS-9006 (EPN 1799-20): Timing and Substance. The plant site must comply with the following recordkeeping requirements: **(09/23)**

- a) The plant site must calculate and record each of the following parameters:
  - i. 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 19, 25, and Step 2 of Appendix 1.2);
  - ii. Assist Steam volumetric flow rate (in scfm) (in 15-minute block averages and in accordance with any calculation requirements of Special Conditions 19, 25, and Step 2 of Appendix 1.2);
  - iii. Assist Air volumetric flow rate (in scfm) (in 15-minute block averages and in accordance with any calculation requirements of Special Conditions 20, 26, and Step 2 of Appendix 1.2);
  - iv. NHVvg (in BTU/scf) (in 15-minute block averages in accordance with Step 1 of Appendix 1.2);
  - v. NHVdil (in BTU/ft<sup>2</sup>) (in 15-minute block averages in accordance with Step 4 of Appendix 1.2); and
  - vi. NHVcz (in BTU/scf) (in 15-minute block averages in accordance with Step 3 of Appendix 1.2).
- b) For Flare FS-9006 (EPN 1799-20), the plant site must record the duration of all periods of Instrument Downtime for each Flare that exceed 5% of the time in a Semi-Annual Period that Flare FS-9006 (EPN 1799-20) is In Operation. The plant site must record which instrument(s) experienced the downtime, if Flare FS-9006 (EPN 1799-20) 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 30-32 at Flare FS-9006 (EPN 1799-20), 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 46305 - Attachment A**  
**Appendix 1.1-1.3 and 2.1**

**Appendix 1.1 – Incorporated Consent Decree Definitions**

The definitions in Appendix 1.1 of Attachment A are only applicable to Special Conditions 18-33 of this permit.

“Air-Assisted Flare” or “Air<sub>asst</sub>” 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-9006 (Air-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 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-9006 (EPN 1799-20).

“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 28.

“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.

“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/ft<sup>2</sup>, 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-9006 (EPN 1799-20).

“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 premix 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-9006 (EPN 1799-20).

“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.

“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 “Atip-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 Atip-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.

### **Appendix 1.2 – Calculating Combustion Efficiency, Net Heating Value of the Combustion Zone Gas (NHV<sub>vg</sub>), the Net Heating Value Dilution Parameter (NHV<sub>dil</sub>), and Flare Tip Velocity**

All abbreviations, constants, and variables are defined in the Key on Page 8 of this Appendix.

Combustion Efficiency Equation:

$$CE = [CO_2]/([CO_2] + [CO] + [OC])$$

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 CO<sub>2</sub>, 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 (NHV<sub>vg</sub>)**

The plant site shall determine the Net Heating Value of the Vent Gas (NHV<sub>vg</sub>) 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-9006 (EPN 1799-20), 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  $NHV_{vg}$  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  $NHV_{vg}$  at a Measurement Location**

**For any gas stream for which the plant site complies with Special Condition 22 by collecting compositional analysis data in accordance with the method set forth in 22.a:** Equation 1 shall be used to determine the  $NHV_{vg}$  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.

$$NHV_{vg} = \sum_{i=1}^n (x_i \cdot NHV_i)$$

**Equation 1**

**For any gas stream for which the plant site complies with Paragraph 22 by collecting direct Net Heating Value monitoring data in accordance with the method set forth in 22.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  $NHV_{vg}$  for the sample.

**For any gas stream for which the plant site complies with Paragraph 22 by collecting direct Net Heating Value monitoring data in accordance with the method set forth in 22.b and for which a Hydrogen Concentration Monitor is also used:** Equation 2 shall be used to determine the  $NHV_{vg}$  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).

$$NHV_{vg} = NHV_{measured} + 938x_{H2}$$

**Equation 2**

**Step 1b: Calculation Method to be Used in Applying Equation/Output to Determine  $NHV_{vg}$**

**For Flare FS-9006 for which the plant site complies with Paragraph 22 by using a continuous monitoring system in accordance with the method set forth in 22.a or 22.b:** The plant site may elect to determine the 15-minute block average  $NHV_{vg}$  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  $NHV_{vg}$  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  $NHV_{vg}$  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  $NHV_{vg}$  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 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 19 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 19 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 22.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.

$$Q_{vol} = \frac{Q_{mass} * 385.3}{MWt} \quad \text{Equation 3}$$

**For gas streams for which the molecular weight of the gas is known and for which the plant site complies with Special Condition 19 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 22.a.

Step 3: Calculate the Net Heating Value of the Combustion Zone Gas (NHV<sub>CZ</sub>)

**For Flare FS-9006 (EPN 1799-20) 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 NHV<sub>CZ</sub> 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  $NHV_{cz}$  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,  $NHV_{cz} = NHV_{vg}$ .

#### Equation 5

Step 4: Calculate the Net Heating Value Dilution Parameter ( $NHV_{dil}$ )

**For Flare FS-9006 (EPN 1799-20) 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  $NHV_{dil}$  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  $NHV_{dil}$  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.  $Q_{NG1} = Q_{NG2}$ ).  $NHV_{NG}$  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 7 shall be used to determine the 15-minute block average  $NHV_{dil}$  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  $NHV_{dil}$  parameter does not need to be calculated.



**Equation 7**

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

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.

$$NHV_{cz} \geq 270 \text{ BTU/scf}$$

**Equation 8**

Step 6: Ensure that during Flare operation,  $NHV_{dil} > 22 \text{ BTU/ft}^2$

A Flare actively receiving Perimeter Assist Air must be operated to ensure that  $NHV_{dil}$  is equal to or above 22 BTU/ft<sup>2</sup>, 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.

$$NHV_{dil} \geq 22 \text{ BTU/ft}^2$$

**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 19 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 28.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/lb-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, ft<sup>2</sup>. 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

$$\text{Diam} = 2 * \sqrt{\text{Area} \div \pi}$$

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<sub>CZ</sub> = Net Heating Value of Combustion Zone Gas (BTU/scf)

NHV<sub>i</sub> = Net Heating Value of component i according to Table 1 of this Appendix (BTU/scf)

NHV<sub>measured</sub> = Net Heating Value of Vent Gas stream as measured by monitoring system (BTU/scf) NHV<sub>NG</sub> = Net Heating Value of Supplemental Gas to flare during the 15 minute block period (BTU/scf) NHV<sub>vg</sub> = Net Heating Value of Vent Gas (BTU/scf)

Q<sub>a,perimeter</sub> = cumulative vol flow of perimeter assist air during the 15 minute block period (scf) Q<sub>a,premix</sub> = cumulative vol flow of premix assist air during the 15 minute block period (scf) Q<sub>cum</sub> = cumulative volumetric flow over 15-minute block average period (scf)

Q<sub>mass</sub> = mass flow rate (pounds per second)

Q<sub>NG1</sub> = cumulative vol flow of Supplemental Gas to flare during previous 15 minute block period (scf)

Q<sub>NG2</sub> = cumulative vol flow of Supplemental Gas to flare during the 15 minute block period (scf)

Q<sub>S</sub> = cumulative vol flow of Total Steam during the 15 minute block period (scf) Q<sub>vg</sub> = cumulative vol flow of Vent Gas during the 15 minute block period (scf) Q<sub>vol</sub> = volumetric flow rate (scf per second)

V<sub>max</sub> = Maximum allowed flare tip velocity (feet per second) V<sub>tip</sub> = Flare tip velocity (feet per second)

x<sub>i</sub> = concentration of component i in Vent Gas (vol fraction)

x<sub>H2</sub> = concentration of H2 in Vent Gas at time sample was input into NHV monitoring system (vol fraction)

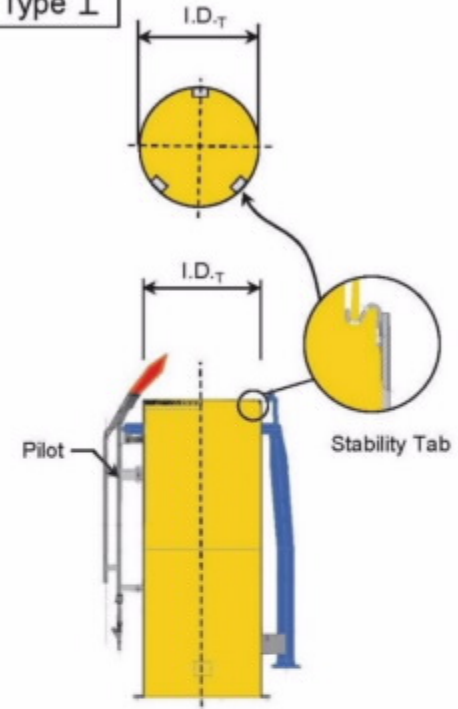
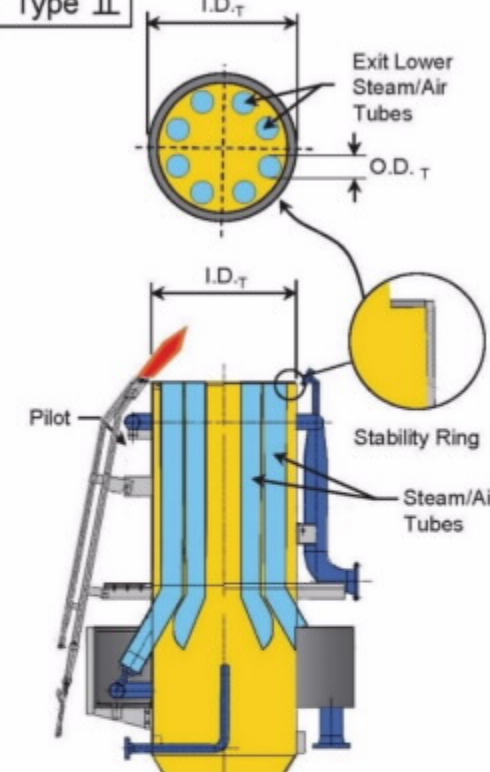
**Table 1**  
**Individual Component Properties**

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

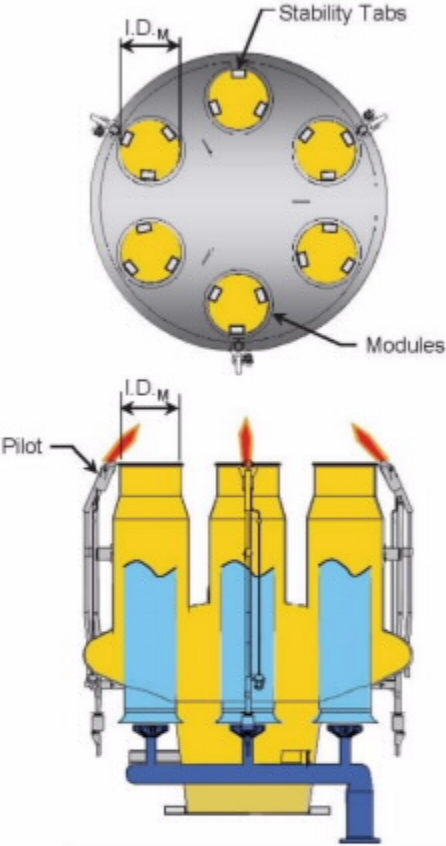
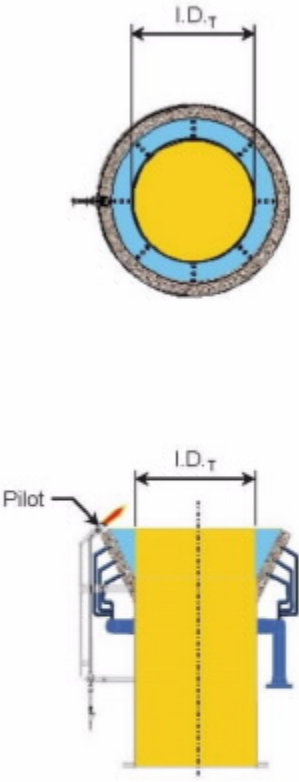
<sup>A</sup> The theoretical Net Heating Value for hydrogen is 274 Btu/scf, but for the purposes of this Permit, a Net Heating Value of 1,212 Btu/scf shall be used.

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><b>Type I</b></p>  $A_{tip-unob} = \pi(I.D.T)^2/4 - (X_T * A_{ST})$	<p><b>Type II</b></p>  $A_{tip-unob} = \pi(I.D.T)^2/4 - A_{ST} - N_T * \pi * (O.D.T)^2/4$
<p>Where: <math>A_{tip-unob}</math> = Unobstructed Cross Sectional Area of Flare Tip  <math>I.D.T</math> = Inside Diameter Flare Tip  <math>X_T</math> = Number of Stability Tabs  <math>A_{ST}</math> = Area of a Stability Tab</p>	<p>Where: <math>A_{tip-unob}</math> = Unobstructed Cross Sectional Area of Flare Tip  <math>I.D.T</math> = Inside Diameter Flare Tip  <math>A_{ST}</math> = Area of Stability Ring  <math>O.D.T</math> = Outside Diameter of Steam/Air Tubes  <math>N_T</math> = Number of Steam/Air Tubes</p>
<p>Example: <math>I.D.T</math> = 41.5 inches  <math>X_T</math> = 3  <math>A_{ST}</math> = 3 Sq. inches</p>	<p>Example: <math>I.D.T</math> = 47.5 inches  <math>A_{ST}</math> = 100 Sq. inches  <math>O.D.T</math> = 6.5 inches  <math>N_T</math> = 8</p>
<p><math>A_{tip-unob} = \pi(41.5)^2/4 - (3 * 3)</math>  <math>A_{tip-unob} = 1344</math> Sq. inches</p>	<p><math>A_{tip-unob} = \pi(47.5)^2/4 - 100 - 8 * \pi * (6.5)^2/4</math>  <math>A_{tip-unob} = 1322</math> 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><b>Where:</b> <math>A_{tip-unob}</math> = Unobstructed Cross Sectional Area of Flare Tip  <math>I.D._M</math> = Inside Diameter of One Tip Module  <math>N_M</math> = Number of Modules  <math>X_T</math> = Number of Stability Tabs per Module  <math>A_{ST}</math> = Area of a Stability Tab</p>	<p><b>Where:</b> <math>A_{tip-unob}</math> = Unobstructed Cross Sectional Area of Flare Tip  <math>I.D._T</math> = Inside Diameter of Flare Tip</p>
<p><b>Example:</b> <math>I.D._M</math> = 17 inches  <math>N_M</math> = 6      <math>X_T</math> = 3  <math>A_{ST}</math> = 3 Sq. inches</p>	<p><b>Example:</b> <math>I.D._T</math> = 41.5 inches</p>
<p><math>A_{tip-unob} = 6 * (\pi * (17)^2 / 4 - 3 * 3)</math>  <math>A_{tip-unob} = 1308</math> Sq. inches</p>	<p><math>A_{tip-unob} = \pi (41.5)^2 / 4</math>  <math>A_{tip-unob} = 1353</math> Sq. inches</p>



**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<sub>VG</sub>) 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<sub>VG</sub> 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<sub>VG</sub> 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<sub>VG</sub>:

- 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<sub>VG</sub>;
  - 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](mailto:merrill.raymond@epa.gov), or Robin Segall at (919) 541-0893 or [segall.robin@epa.gov](mailto: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

Permit Number 46305 and N298

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	TPY (4)
1799-01	Catalyst Activator Heater	VOC	0.03	0.14
		CO	0.49	2.16
		NO <sub>x</sub>	0.36	1.58
		PM	0.04	0.20
		PM <sub>10</sub>	0.04	0.20
		PM <sub>2.5</sub>	0.04	0.20
		SO <sub>2</sub>	0.08	0.37
1799-02	Activator Knockout Pot Vent Filter	VOC	0.39	0.37
		PM	0.04	<0.01
		PM <sub>10</sub>	0.04	<0.01
		PM <sub>2.5</sub>	0.04	<0.01
1799-04	Catalyst Charge Line Vent Filter	PM	0.02	<0.01
		PM <sub>10</sub>	0.02	<0.01
		PM <sub>2.5</sub>	0.02	<0.01
1799-05	Extruder/Additives Vent Filter	PM	0.02	0.08
		PM <sub>10</sub>	0.02	0.08
		PM <sub>2.5</sub>	0.02	0.08
1799-07	Scalping Screen Surge Hopper	PM	<0.01	<0.01
		PM <sub>10</sub>	<0.01	<0.01
		PM <sub>2.5</sub>	<0.01	<0.01
PELLET (1799-05, 1799-06, 1799-07, 1799-08A, 1799-08B, 1799-08C, 1799-08D, 1799-09, 1799-10A, 1799-10B, 1799-10C, 1799-10D)	Pellet Storage and Loading (6)	VOC	11.2	17.74
1799-08A	Pellet Storage and Loading	PM	0.16	<0.01
		PM <sub>10</sub>	0.16	<0.01
		PM <sub>2.5</sub>	0.16	<0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
1799-08B	Pellet Storage and Loading	PM	0.16	<0.01
		PM <sub>10</sub>	0.16	<0.01
		PM <sub>2.5</sub>	0.16	<0.01
1799-08C	Pellet Storage and Loading	PM	0.16	<0.01
		PM <sub>10</sub>	0.16	<0.01
		PM <sub>2.5</sub>	0.16	<0.01
1799-08D	Pellet Storage and Loading	PM	0.16	<0.01
		PM <sub>10</sub>	0.16	<0.01
		PM <sub>2.5</sub>	0.16	<0.01
1799-09	Pellet Storage and Loading	PM	0.32	<0.01
		PM <sub>10</sub>	0.32	<0.01
		PM <sub>2.5</sub>	0.32	<0.01
1799-10A	Pellet Storage and Loading	PM	0.16	0.03
		PM <sub>10</sub>	0.16	0.03
		PM <sub>2.5</sub>	0.16	0.03
1799-10B	Pellet Storage and Loading	PM	0.16	0.03
		PM <sub>10</sub>	0.16	0.03
		PM <sub>2.5</sub>	0.16	0.03
1799-10C	Pellet Storage and Loading	PM	0.16	0.03
		PM <sub>10</sub>	0.16	0.03
		PM <sub>2.5</sub>	0.16	0.03
1799-10D	Pellet Storage and Loading	PM	0.16	0.03
		PM <sub>10</sub>	0.16	0.03
		PM <sub>2.5</sub>	0.16	0.03
1799-15	Cooling Tower (5)	VOC	1.20	3.70
		PM	0.51	2.25
		PM <sub>10</sub>	0.51	2.25
		PM <sub>2.5</sub>	0.16	0.72
1799-20	Process Vent Flare	VOC	250.13	16.24

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		CO	436.80	75.67
		NO <sub>x</sub>	105.69	9.29
		SO <sub>2</sub>	2.26	1.13
1799-25	Process Fugitives (5)	VOC	1.37	6.00

- (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<sub>x</sub> - total oxides of nitrogen  
SO<sub>2</sub> - sulfur dioxide  
PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented  
PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented  
PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
CO - carbon monoxide  
(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) The maximum allowable emission rates for VOC pellet storage and loading area emissions are for the emission points as a group.

Date: July 14, 2022