

# FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO  
Bayport Polymers LLC

AUTHORIZING THE OPERATION OF  
Bayport Polymers  
Ethane Cracker  
Petrochemical Manufacturing

LOCATED AT  
Jefferson County, Texas  
Latitude 29° 57' 47" Longitude 93° 53' 25"  
Regulated Entity Number: RN109845768

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:       O4161       Issuance Date: \_\_\_\_\_

\_\_\_\_\_  
For the Commission

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## **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, Subpart YY as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, §113.560 which incorporates the 40 CFR Part 63 Subpart by reference.
  - F. Emission units subject to 40 CFR Part 63, Subpart ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, §113.1090 which incorporates the 40 CFR Part 63 Subpart by reference.
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. 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.
- C. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).
- 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)
- E. Outdoor burning, as stated in 30 TAC § 111.201, shall not be authorized unless the following requirements are satisfied:
  - (i) Title 30 TAC § 111.205 (relating to Exception for Fire Training)
  - (ii) Title 30 TAC § 111.207 (relating to Exception for Recreation, Ceremony, Cooking, and Warmth)
  - (iii) Title 30 TAC § 111.219 (relating to General Requirements for Allowable Outdoor Burning)
  - (iv) Title 30 TAC § 111.221 (relating to Responsibility for Consequences of Outdoor Burning)

4. For industrial wastewater specified in 30 TAC Chapter 115, Subchapter B, the permit holder shall comply with the following requirements for wastewater drains, junction boxes, lift stations and weirs:
  - A. Title 30 TAC § 115.142(1)(E) and (F) (relating to Control Requirements)
  - B. Title 30 TAC § 115.146 (relating to Recordkeeping Requirements)
5. The permit holder shall comply with the following 30 TAC Chapter 115, Subchapter F requirements (relating to Cutback Asphalt Requirements):
  - A. Title 30 TAC § 115.512(1) (relating to Control Requirements)
  - B. Title 30 TAC § 115.512(2) (relating to Control Requirements)
  - C. Title 30 TAC § 115.512(3) (relating to Control Requirements)
  - D. Title 30 TAC § 115.515 (relating to Testing Requirements)
6. 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)
7. 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)
8. 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(e)(1) (relating to Standards: General)
  - C. Title 40 CFR § 61.342(e)(2)(i) - (ii) (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(k)(1) - (6), and (7)(i) - (iv) (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)(4) (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)(5) (relating to Reporting Requirements)
9. 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 § 61.345(a)(4)(i) - (iii) (relating to Standards: Containers)
  - C. Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
  - D. Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)



- E. Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)
- 10. For facilities with individual drain systems subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
  - A. Title 40 CFR § 61.346(a)(1)(i)(A), (B), (ii), (2), and (3) (relating to Standards: Individual Drain Systems)
  - 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)
- 11. 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.
- 12. For ethylene process facilities subject to 40 CFR Part 63, Subpart YY with benzene laden waste streams and total annual benzene quantity from the facility of less than 10 megagrams per year the permit holder shall comply with the following requirements for control of spent caustic and dilution steam blowdown waste streams as specified in 40 CFR § 63.1095(b)(1) (Title 30 TAC Chapter 113, Subchapter C, § 113.560 incorporated by reference):
  - A. For facilities with waste managed in containers the permit holder shall comply with the following requirements:
    - (i) Title 40 CFR § 61.345(a)(1) - (3), (b), and (c) (relating to Standards: Containers)
    - (ii) Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
    - (iii) Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)
    - (iv) Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)
- 13. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit holder shall submit a revision application to codify the appropriate requirements in the permit.

#### **Additional Monitoring Requirements**

- 14. 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.
15. 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**

16. 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 August 25, 2025 in the application for project 37614), 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
17. 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.
18. 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).
19. 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. Boiler Standard Permit
  - D. Requirements of the non-rule Air Quality Standard Permit for Pollution Control Projects

## **Compliance Requirements**

20. 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.

21. 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 Beaumont-Port Arthur Nonattainment area, 30 TAC § 117.9000
22. 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)
23. 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**

- 24. 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**

- 25. 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.

### **Alternative Requirements**

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

### **Permit Location**

- 27. 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)**

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

## **Attachments**

**Applicable Requirements Summary**

**Additional Monitoring Requirements**

**Permit Shield**

**New Source Review Authorization References**

**Alternative Requirement**

### **Applicable Requirements Summary**

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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
BLRFUG	FUGITIVE EMISSION UNITS	N/A	R5352-ALL	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
C-1121	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
C-1122	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
EMERGEN1	SRIC ENGINES	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
EMERGEN1	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
EMERGEN2	SRIC ENGINES	N/A	60IIII-1	40 CFR Part 60, Subpart IIII	No changing attributes.
EMERGEN2	SRIC ENGINES	N/A	63ZZZZ-1	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRP-FURNCAP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	H-1101, H-1102, H- 1103, H-1104, H- 1105, H-1106	R1111-2	30 TAC Chapter 111, Visible Emissions	No changing attributes.
GRP-FURNCAP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	H-1101, H-1102, H- 1103, H-1104, H- 1105, H-1106	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
GRP-Z5671	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	Z-5671A, Z-5671B	R5131-FL	30 TAC Chapter 115, Water Separation	Control Device ID No. = XF-4601
GRP-Z5671	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	Z-5671A, Z-5671B	R5131-TO	30 TAC Chapter 115, Water Separation	Control Device ID No. = X-3800, X- 3900
GRP-Z5671	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	Z-5671A, Z-5671B	61FF-FL	40 CFR Part 61, Subpart FF	Control Device Type/Operation = FLARE
GRP-Z5671	VOLATILE ORGANIC	Z-5671A, Z-5671B	61FF-TO	40 CFR Part 61, Subpart FF	Engineering Calculations =

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	COMPOUND WATER SEPARATORS				ENGINEERING CALCULATIONS ARE USED TO DEMONSTRATE CONTROL DEVICE PERFORMANCE, Control Device Type/Operation = THERMAL VAPOR INCINERATOR REDUCING ORGANICS BY 95 WEIGHT PERCENT OR GREATER
LOAD	LOADING/UNLOADING OPERATIONS	N/A	R5211-2	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
PKGBOIL1	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db-2	40 CFR Part 60, Subpart Db	No changing attributes.
PKGBOIL1	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	63DDDDD-2	40 CFR Part 63, Subpart DDDDD	No changing attributes.
PKGBOIL2	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db-2	40 CFR Part 60, Subpart Db	No changing attributes.
PKGBOIL2	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	63DDDDD-2	40 CFR Part 63, Subpart DDDDD	No changing attributes.
PKGBOIL3	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db-2	40 CFR Part 60, Subpart Db	No changing attributes.
PKGBOIL3	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	63DDDDD-2	40 CFR Part 63, Subpart DDDDD	No changing attributes.
PROPROCESS	CHEMICAL MANUFACTURING	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	PROCESS				
SCFUG	FUGITIVE EMISSION UNITS	N/A	R5352-ALL	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
SCFUG	FUGITIVE EMISSION UNITS	N/A	60VVa-1	40 CFR Part 60, Subpart VVa	No changing attributes.
SCFUG	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
STMBLR	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db-1	40 CFR Part 60, Subpart Db	No changing attributes.
STMBLR	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	63DDDDD-1	40 CFR Part 63, Subpart DDDDD	No changing attributes.
T-1202	STORAGE TANKS/VESSELS	N/A	R5112-2	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-1202	STORAGE TANKS/VESSELS	N/A	60Kb-BACKUPCD	40 CFR Part 60, Subpart Kb	Control Device Id No. = BACK-UP CD
T-1202	STORAGE TANKS/VESSELS	N/A	60Kb-X3800	40 CFR Part 60, Subpart Kb	Control Device Id No. = X-3800
T-1210	STORAGE TANKS/VESSELS	N/A	R5112-4	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-1221A	STORAGE TANKS/VESSELS	N/A	R5112-2	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-1221A	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
T-1221B	STORAGE TANKS/VESSELS	N/A	R5112-2	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-1221B	STORAGE	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	TANKS/VESSELS				
T-5655	STORAGE TANKS/VESSELS	N/A	R5112-2	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-5655	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
T-5660	STORAGE TANKS/VESSELS	N/A	R5112-3	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
T-5660	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
T-5672	STORAGE TANKS/VESSELS	N/A	R5112- BACKUPCD	30 TAC Chapter 115, Storage of VOCs	Control Device Id No. = BACK-UP CD
T-5672	STORAGE TANKS/VESSELS	N/A	R5112-X3800	30 TAC Chapter 115, Storage of VOCs	Control Device Id No. = X-3800
T-5672	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
UNLOAD	LOADING/UNLOADING OPERATIONS	N/A	R5211-1	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure less than 0.5 psia.
UNLOAD	LOADING/UNLOADING OPERATIONS	N/A	R5211-2	30 TAC Chapter 115, Loading and Unloading of VOC	Vapor Tight = Not all liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected., True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia.
V-1123A	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-1123R	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
V-1215	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-1222	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-1223	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-1227X	STORAGE TANKS/VESSELS	N/A	61FF-TO	40 CFR Part 61, Subpart FF	No changing attributes.
V-1290	STORAGE TANKS/VESSELS	N/A	R5112-4	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
V-1291	STORAGE TANKS/VESSELS	N/A	R5112-4	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
V-3801X	STORAGE TANKS/VESSELS	N/A	61FF-TO	40 CFR Part 61, Subpart FF	No changing attributes.
V-4601	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-5651	STORAGE TANKS/VESSELS	N/A	R5112-4	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
V-5651	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-5652	STORAGE TANKS/VESSELS	N/A	R5112-4	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
V-5652	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-8601	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.
V-8602	STORAGE TANKS/VESSELS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
X-3800	CLOSED VENT SYSTEM AND CONTROL DEVICE	N/A	61FF-TO	40 CFR Part 61, Subpart FF	No changing attributes.
X-3900	CLOSED VENT SYSTEM AND CONTROL DEVICE	N/A	61FF-TO	40 CFR Part 61, Subpart FF	No changing attributes.
X3401	INDUSTRIAL PROCESS COOLING TOWERS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
X3800VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121- BACKUPCD	30 TAC Chapter 115, Vent Gas Controls	Control Device Id No. = BACK-UP CD
X3800VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-X3800	30 TAC Chapter 115, Vent Gas Controls	Control Device Id No. = X-3800
X3800VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
XF-4601	FLARES	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
XF-4601	FLARES	N/A	60A-01-LP	40 CFR Part 60, Subpart A	Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
XF-4601	FLARES	N/A	60A-02-LP	40 CFR Part 60, Subpart A	Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).
XF-4601	FLARES	N/A	60A-03-LP	40 CFR Part 60, Subpart A	Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is greater than 1000 Btu/scf (37.3 MJ/scm)
XF-4601	CLOSED VENT SYSTEM AND CONTROL DEVICE	N/A	61FF-FLARE	40 CFR Part 61, Subpart FF	No changing attributes.
XF-4601	FLARES	N/A	63A-01-LP	40 CFR Part 63, Subpart A	Flare Exit Velocity = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
XF-4601	FLARES	N/A	63A-02-LP	40 CFR Part 63, Subpart A	Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is less than or equal to 1000 Btu/scf (37.3 MJ/scm).
XF-4601	FLARES	N/A	63A-03-LP	40 CFR Part 63, Subpart A	Flare Exit Velocity = Flare exit velocity is greater than or equal to 60 ft/s (18.3 m/sec) but less than 400 ft/s (122 m/sec)., Heating Value of Gas = Heating value is greater than 1000 Btu/scf (37.3 MJ/scm).
XF-4601	FLARES	N/A	63YY-CC	40 CFR Part 63, Subpart YY	No changing attributes.
XF4601VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-1	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
XF4601VENT	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
XT-5672	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	N/A	R5131-BACKUPCD	30 TAC Chapter 115, Water Separation	Control Device Id No. = BACK-UP CD

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
XT-5672	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	N/A	R5131-X3800	30 TAC Chapter 115, Water Separation	Control Device Id No. = X-3800
XT-5672	VOLATILE ORGANIC COMPOUND WATER SEPARATORS	N/A	61FF-FL	40 CFR Part 61, Subpart FF	No changing attributes.



### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(2) § 115.352(9)	Conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 psig, pressure relief valves (PRVs) equipped with a rupture disk or venting to a control device, components in continuous vacuum service, and valves that are not externally regulated (i.e. in-line check valves) are exempt from the requirements of this division, except that each PRV 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery	§ 115.352(1)(A) § 115.352(1)	No valves contacting a fluid with TVP less than or equal	§ 115.354(1) § 115.354(2)	§ 115.352(7) § 115.356	[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)
				& Petrochemicals	§ 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)	to 0.044 psia (heavy liquid service) 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(5) § 115.354(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 § 115.357(1)	[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)	
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(C) § 115.352(1) § 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(5) § 115.352(7) § 115.357(8) § 115.358(c)(1) [G]§ 115.358(h)	If the owner or operator elects to use the alternative work practice in §115.358, no component shall be allowed to have a VOC leak, detected as defined in §115.358, for more than 15 days after discovery. This includes 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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)	No pump seals contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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	§ 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

### 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(12) § 115.357(8)	volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.			
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(4) § 115.357(8)	No pump seals that are equipped with a shaft sealing system that prevents or detects emissions of VOCs from the seal 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery	§ 115.352(1)(B) § 115.352(1)	No compressor seals contacting a fluid with TVP	§ 115.354(1) § 115.354(10)	§ 115.352(7) § 115.354(10)	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
				& Petrochemicals	§ 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)	greater than 0.044 psia (gas/vapor or light liquid service) 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(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	No compressor seals contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None
BLRFUG	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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery	§ 115.357(10)	Instrumentation systems, as defined in 40 CFR §63.161	None	§ 115.356 § 115.356(3)	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
				& Petrochemicals		(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.		[G]§ 115.356(3)(C)	
BLRFUG	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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(13)	Components/systems that contact a process fluid containing VOC having a true vapor pressure equal to or less than 0.002 psia at 68 degrees Fahrenheit are exempt from the requirements of this division except §115.356(3)(C) of this title.	None	§ 115.356 § 115.356(3) [G]§ 115.356(3)(C)	None
BLRFUG	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 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

### 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7) § 115.357(1)	No process drains contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7)	No process drains contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(5) § 115.352(7)	No pressure relief valves contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening	§ 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	§ 115.352(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)	[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(9) § 115.357(1) § 115.357(8) § 115.357(9)	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.	§ 115.357(1)	§ 115.356(5)	
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 in hydrogen service with a hydrogen content that can be demonstrated to always exceed 50.0% by volume 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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) § 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8)	No flanges or other connectors contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) shall be allowed to have a VOC leak, for more than 15 days after discovery which	§ 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)	None



### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.357(1) § 115.357(12) § 115.357(8)	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.		§ 115.356(5)	
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8)	No flanges or other connectors contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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(8)	No agitators contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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	[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)
						sound.			
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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(8)	No agitators contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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.	[G]§ 115.355	§ 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
BLRFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 that are equipped with a shaft sealing system that prevents or detects emissions of VOCs from the seal 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
C-1121	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	control device.	§ 61.354(c)(3) [G]§ 61.355(h)	§ 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	
C-1122	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
EMERGEN1	EU	60III-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 5.0 g/KW-hr, as stated in 40 CFR 60.4202(e)-(f), 40 CFR 1042.101, and 40 CFR	None	None	[G]§ 60.4214(d)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						1042-Appendix I.			
EMERGEN1	EU	60III-1	HC and NO <sub>x</sub>	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power less than 600 KW and a displacement of greater than or equal to 15 liters per cylinder and less than 20 liters per cylinder and is a 2014 model year and later must comply with an HC+NO <sub>x</sub> emission limit of 6.2 g/KW-hr, as stated in 40 CFR 60.4202(f)(2) and 40 CFR 1042.101.	None	None	[G]§ 60.4214(d)
EMERGEN1	EU	60III-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power less than 600 KW and a displacement of greater than or equal to 15 liters per cylinder and less than 20 liters per cylinder and is a 2014 model year and later must comply with a PM emission limit of 0.14 g/KW-hr, as stated in 40 CFR 60.4202(f)(2) and 40 CFR 1042.101.	None	None	[G]§ 60.4214(d)
EMERGEN1	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) § 63.6640(f)(2) § 63.6640(f)(2)(i) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart	None	None	§ 63.6645(f)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						A of this part except for the initial notification requirements of §63.6645(f).			
EMERGEN2	EU	60IIII-1	CO	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 5.0 g/KW-hr, as stated in 40 CFR 60.4202(e)-(f), 40 CFR 1042.101, and 40 CFR 1042-Appendix I.	None	None	[G]§ 60.4214(d)
EMERGEN2	EU	60IIII-1	HC and NO <sub>x</sub>	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power less than 600 KW and a displacement of greater than or equal to 15 liters per cylinder and less than 20 liters per cylinder and is a 2014 model year and later must comply with an HC+NO <sub>x</sub> emission limit of 6.2 g/KW-hr, as stated in 40 CFR 60.4202(f)(2) and 40 CFR 1042.101.	None	None	[G]§ 60.4214(d)
EMERGEN2	EU	60IIII-1	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(b) § 1042.101 § 60.4202(f)(2) § 60.4206	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum	None	None	[G]§ 60.4214(d)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	engine power less than 600 KW and a displacement of greater than or equal to 15 liters per cylinder and less than 20 liters per cylinder and is a 2014 model year and later must comply with a PM emission limit of 0.14 g/KW-hr, as stated in 40 CFR 60.4202(f)(2) and 40 CFR 1042.101.			
EMERGEN2	EU	63ZZZZ-1	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) § 63.6640(f)(2) § 63.6640(f)(2)(i) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).	None	None	§ 63.6645(f)
GRP-FURNCAP	EP	R1111-2	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
GRP-FURNCAP	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

### 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)
					CFR Part 63, Subpart YY				
GRP-Z5671	EU	R5131-FL	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	None
GRP-Z5671	EU	R5131-TO	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	None
GRP-Z5671	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 60.18 § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 60.18(f)(2) § 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
GRP-Z5671	EU	61FF-TO	Benzene	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii)	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)

### 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)
					§ 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)			§ 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	
LOAD	EU	R5211-2	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(2)(A) [G]§ 115.212(a)(7) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Any plant, excluding gasoline bulk plants, which loads less than 20,000 gpd of VOC with a true vapor pressure of 0.5 psia or greater is exempt from the requirements of this division, except for the specified requirements.	§ 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) § 115.216(3)(D)	None
PKGBOIL1	EU	60Db-2	NO <sub>x</sub>	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.46b(a)	On or after the §60.8 performance test is completed, no facility that commenced construction after 07/09/1997 shall discharge NO <sub>x</sub> in excess 86 ng/J (0.20 lb/MMBtu) heat input if the facility combusts coal, oil, natural gas or a combination involving these fuels unless the facility is subject to and in compliance with a federally enforceable requirement that limits operation an annual capacity factor of 10 percent or less for coal, oil, and natural gas (or any combination of the three).	§ 60.46b(c) § 60.46b(e) § 60.46b(e)(1) § 60.46b(e)(4) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f) § 60.48b(g)(1)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(h)(4) § 60.49b(i) § 60.49b(v) § 60.49b(w)
PKGBOIL1	EU	60Db-2	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)



### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).			
PKGBOIL1	EU	60Db-2	PM (Opacity)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
PKGBOIL1	EU	60Db-2	SO <sub>2</sub>	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	On and after the §60.8 performance test is completed, units constructed, reconstructed, or modified after February 28, 2005, firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO <sub>2</sub> emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) § 60.49b(r)(1)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) § 60.49b(r)(1)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						exempt from the SO <sub>2</sub> emissions limit in §60.42b(k)(1).			
PKGBOIL1	EU	63DDDDD-2	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7500(a)(1)-Table 3.3 § 63.7500(a)(1) § 63.7500(a)(3) § 63.7505(a) § 63.7540(a) [G]§ 63.7540(a)(10) § 63.7540(a)(13)	A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater must conduct a tune-up of the boiler or process heater annually as specified in § 63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions.	§ 63.7510(g) § 63.7515(d) [G]§ 63.7521(f) [G]§ 63.7521(g) § 63.7521(h) § 63.7521(i) § 63.7530(g) § 63.7540(a) [G]§ 63.7540(a)(10) [G]§ 63.7540(c)	§ 63.7555(a) § 63.7555(a)(1) § 63.7555(a)(2) § 63.7555(g) § 63.7555(h) § 63.7560(a) § 63.7560(b) § 63.7560(c)	[G]§ 63.7521(g) § 63.7530(e) § 63.7530(f) § 63.7545(a) § 63.7545(b) § 63.7545(c) [G]§ 63.7545(e) [G]§ 63.7545(f) § 63.7550(a) [G]§ 63.7550(b) [G]§ 63.7550(c) [G]§ 63.7550(h)
PKGBOIL2	EU	60Db-2	NO <sub>x</sub>	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.46b(a)	On or after the §60.8 performance test is completed, no facility that commenced construction after 07/09/1997 shall discharge NO <sub>x</sub> in excess 86 ng/J (0.20 lb/MMBtu) heat input if the facility combusts coal, oil, natural gas or a combination involving these fuels unless the facility is subject to and in compliance with a federally enforceable requirement that limits operation an annual capacity factor of 10 percent or less for coal, oil, and natural gas (or any combination of the three).	§ 60.46b(c) § 60.46b(e) § 60.46b(e)(1) § 60.46b(e)(4) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f) § 60.48b(g)(1)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(h)(4) § 60.49b(i) § 60.49b(v) § 60.49b(w)
PKGBOIL2	EU	60Db-2	PM	40 CFR Part 60,	§ 60.40b(a)	The affected facility to which	None	[G]§ 60.49b(d)	§ 60.49b(a)

### 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)
				Subpart Db		this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).		§ 60.49b(o)	§ 60.49b(a)(1) § 60.49b(a)(3)
PKGBOIL2	EU	60Db-2	PM (Opacity)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
PKGBOIL2	EU	60Db-2	SO <sub>2</sub>	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	On and after the §60.8 performance test is completed, units constructed, reconstructed, or modified after February 28, 2005, firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO <sub>2</sub> emission rate	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) § 60.49b(r)(1)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) § 60.49b(r)(1)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO <sub>2</sub> emissions limit in §60.42b(k)(1).			
PKGBOIL2	EU	63DDDDD-2	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7500(a)(1)-Table 3.3 § 63.7500(a)(1) § 63.7500(a)(3) § 63.7505(a) § 63.7540(a) [G]§ 63.7540(a)(10) § 63.7540(a)(13)	A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater must conduct a tune-up of the boiler or process heater annually as specified in § 63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions.	§ 63.7510(g) § 63.7515(d) [G]§ 63.7521(f) [G]§ 63.7521(g) § 63.7521(h) § 63.7521(i) § 63.7530(g) § 63.7540(a) [G]§ 63.7540(a)(10) [G]§ 63.7540(c)	§ 63.7555(a) § 63.7555(a)(1) § 63.7555(a)(2) § 63.7555(g) § 63.7555(h) § 63.7560(a) § 63.7560(b) § 63.7560(c)	[G]§ 63.7521(g) § 63.7530(e) § 63.7530(f) § 63.7545(a) § 63.7545(b) § 63.7545(c) [G]§ 63.7545(e) [G]§ 63.7545(f) § 63.7550(a) [G]§ 63.7550(b) [G]§ 63.7550(c) [G]§ 63.7550(h)
PKGBOIL3	EU	60Db-2	NO <sub>x</sub>	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.46b(a)	On or after the §60.8 performance test is completed, no facility that commenced construction after 07/09/1997 shall discharge NO <sub>x</sub> in excess 86 ng/J (0.20 lb/MMBtu) heat input if the facility combusts coal, oil, natural gas or a combination involving these fuels unless the facility is subject to and in compliance with a federally enforceable requirement that limits operation an annual capacity factor of 10 percent or less for coal, oil, and natural gas (or any	§ 60.46b(c) § 60.46b(e) § 60.46b(e)(1) § 60.46b(e)(4) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f) § 60.48b(g)(1)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(h)(4) § 60.49b(i) § 60.49b(v) § 60.49b(w)

### 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)
						combination of the three).			
PKGBOIL3	EU	60Db-2	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
PKGBOIL3	EU	60Db-2	PM (Opacity)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
PKGBOIL3	EU	60Db-2	SO <sub>2</sub>	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	On and after the §60.8 performance test is completed, units constructed, reconstructed, or modified after February 28, 2005, firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) § 60.49b(r)(1)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) § 60.49b(r)(1)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						any other fuels with a potential SO <sub>2</sub> emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO <sub>2</sub> emissions limit in §60.42b(k)(1).			
PKGBOIL3	EU	63DDDDD-2	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7500(a)(1)-Table 3.3 § 63.7500(a)(1) § 63.7500(a)(3) § 63.7505(a) § 63.7540(a) [G]§ 63.7540(a)(10) § 63.7540(a)(13)	A new or existing boiler or process heater without a continuous oxygen trim system and with heat input capacity of 10 million Btu per hour or greater must conduct a tune-up of the boiler or process heater annually as specified in § 63.7540. Units in either the Gas 1 or Metal Process Furnace subcategories will conduct this tune-up as a work practice for all regulated emissions.	§ 63.7510(g) § 63.7515(d) [G]§ 63.7521(f) [G]§ 63.7521(g) § 63.7521(h) § 63.7521(i) § 63.7530(g) § 63.7540(a) [G]§ 63.7540(a)(10) [G]§ 63.7540(c)	§ 63.7555(a) § 63.7555(a)(1) § 63.7555(a)(2) § 63.7555(g) § 63.7555(h) § 63.7560(a) § 63.7560(b) § 63.7560(c)	[G]§ 63.7521(g) § 63.7530(e) § 63.7530(f) § 63.7545(a) § 63.7545(b) § 63.7545(c) [G]§ 63.7545(e) [G]§ 63.7545(f) § 63.7550(a) [G]§ 63.7550(b) [G]§ 63.7550(c) [G]§ 63.7550(h)
PROPROCE SS	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1100 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
SCFUG	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	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)
						division except §115.356(3)(C) of this title.			
SCFUG	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
SCFUG	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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(13)	Components/systems that contact a process fluid containing VOC having a true vapor pressure equal to or less than 0.002 psia at 68 degrees Fahrenheit are exempt from the requirements of this division except §115.356(3)(C) of this title.	None	§ 115.356 § 115.356(3) [G]§ 115.356(3)(C)	None
SCFUG	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%	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)
						VOC by weight are exempt from the requirements of this division except §115.356(3)(C) of this title.			
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7) § 115.357(1)	No process drains contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7)	No process drains contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A)	No pressure relief valves contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service)	§ 115.354(1) § 115.354(2) § 115.354(4) § 115.354(5)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2)	[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(2)(B) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(9) § 115.357(1) § 115.357(8) § 115.357(9)	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(6) [G]§ 115.354(7) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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)	No open-ended valves or lines contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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	§ 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) § 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)
					§ 115.357(9)	the dripping or exuding of process fluid based on sight, smell, or sound.			
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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)
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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 flanges or other connectors contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) shall be	§ 115.354(1) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3)	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.352(5) § 115.352(7) § 115.352(8) § 115.357(1) § 115.357(12) § 115.357(8)	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(9) [G]§ 115.355 § 115.357(1)	§ 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8)	No flanges or other connectors contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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)	No agitators contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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	[G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.357(8)	as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.			
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 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(8)	No agitators contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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.	[G]§ 115.355	§ 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 that are equipped with a shaft sealing system that prevents or detects emissions of VOCs from the seal 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2)	No compressor seals contacting a fluid with TVP less than or equal to 0.044	§ 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)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(iii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	psia (heavy liquid service) 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(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	[G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(iii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8)	No compressor seals contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(iii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(7)	No pump seals that are equipped with a shaft sealing system that prevents or detects emissions of VOCs from the seal 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	[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(4) § 115.357(8)	volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.			
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 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 contacting a fluid with TVP greater than 0.044 psia (gas/vapor or light liquid service) 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
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(C) § 115.352(1) § 115.352(2)	If the owner or operator elects to use the alternative work practice in §115.358,	§ 115.354(1) § 115.354(11) § 115.354(13)(A)	§ 115.352(7) § 115.354(13)(D) § 115.354(13)(E)	[G]§ 115.358(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)
					§ 115.352(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(5) § 115.352(7) § 115.357(8) § 115.358(c)(1) [G]§ 115.358(h)	no component shall be allowed to have a VOC leak, detected as defined in §115.358, for more than 15 days after discovery. This includes 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)(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)	§ 115.356 [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)	
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(B) § 115.352(3) § 115.352(4) § 115.352(5) § 115.352(6) § 115.352(7) § 115.357(1) § 115.357(8) § 115.357(9)	No valves contacting a fluid with TVP less than or equal to 0.044 psia (heavy liquid service) 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) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	[G]§ 115.354(7)
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.357(2) § 115.352(9)	Conservation vents or other devices on atmospheric storage tanks that are actuated either by a vacuum or a pressure of no more than 2.5 psig, pressure relief valves (PRVs) equipped with a rupture disk or venting to a control device, components in continuous vacuum service,	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)
						and valves that are not externally regulated (i.e. in-line check valves) are exempt from the requirements of this division, except that each PRV equipped with a rupture disk must comply with §115.352(9) and §115.356(3)(C).			
SCFUG	EU	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(iii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(3) § 115.357(8)	No compressor seals in hydrogen service with a hydrogen content that can be demonstrated to always exceed 50.0% by volume 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
SCFUG	EU	60VVa-1	VOC	40 CFR Part 60, Subpart VVa	§ 63.1100(g)(4)(iii)	For ethylene production affected sources, equipment that must be controlled according to 40 CFR Part 63, Subpart YY and 40 CFR Part 60, Subpart VVa is required only to comply with the equipment leak requirements in 40 CFR Part 63, Subpart YY, with the exception that the owner or operator must also	[G]§ 60.485a(b)(2)	§ 60.486a(e)(8)(v)	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)
						comply with calibration drift assessment requirements in §60.485a(b)(2) and §60.486a(e)(8)(v).			
SCFUG	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
STMBLR	EU	60Db-1	NO <sub>x</sub>	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.46b(a)	On or after the §60.8 performance test is completed, no facility that commenced construction after 07/09/1997 shall discharge NO <sub>x</sub> in excess 86 ng/J (0.20 lb/MMBtu) heat input if the facility combusts coal, oil, natural gas or a combination involving these fuels unless the facility is subject to and in compliance with a federally enforceable requirement that limits operation an annual capacity factor of 10 percent or less for coal, oil, and natural gas (or any combination of the three).	§ 60.46b(c) § 60.46b(e) § 60.46b(e)(1) § 60.46b(e)(3) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(i) § 60.49b(v) § 60.49b(w)
STMBLR	EU	60Db-1	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).			
STMBLR	EU	60Db-1	PM (Opacity)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
STMBLR	EU	60Db-1	SO <sub>2</sub>	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	On and after the §60.8 performance test is completed, units constructed, reconstructed, or modified after February 28, 2005, firing only very low sulfur oil, gaseous fuel, a mixture of these fuels, or a mixture of these fuels with any other fuels with a potential SO <sub>2</sub> emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO <sub>2</sub> emissions limit in	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) § 60.49b(r)(1)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) § 60.49b(r)(1)

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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)
						§60.42b(k)(1).			
STMBLR	EU	63DDDDD-1	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7500(a)(1)-Table 3.1 § 63.7500(a)(1) § 63.7500(a)(3) § 63.7505(a) § 63.7540(a) [G]§ 63.7540(a)(10) § 63.7540(a)(12) § 63.7540(a)(13)	A new or existing boiler or process heater with a continuous oxygen trim system that maintains an optimum air to fuel ratio must conduct a tune-up of the boiler or process heater every 5 years as specified in § 63.7540.	§ 63.7510(g) § 63.7515(d) § 63.7525(a)(7) § 63.7540(a) [G]§ 63.7540(a)(10)	§ 63.7555(a) § 63.7555(a)(1) § 63.7560(a) § 63.7560(b) § 63.7560(c)	§ 63.7530(e) § 63.7530(f) § 63.7545(a) § 63.7545(b) § 63.7545(c) [G]§ 63.7545(e) § 63.7550(a) [G]§ 63.7550(b) [G]§ 63.7550(c) [G]§ 63.7550(h)
T-1202	EU	R5112-2	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
T-1202	EU	60Kb-BACKUPC D	VOC	40 CFR Part 60, Subpart Kb	§ 60.110b(a)	Except for §60.110b(b), this subpart applies to vessels with a capacity greater than or equal to 75 cubic meters (19,813 gal) used to store VOLs for which construction/reconstruction/modification began after 7/23/1984.	§ 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(d) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3)	§ 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.116b(d)
T-1202	EU	60Kb-X3800	VOC	40 CFR Part 60, Subpart Kb	§ 60.110b(a)	Except for §60.110b(b), this subpart applies to vessels with a capacity greater than or equal to 75 cubic meters (19,813 gal) used to store VOLs for which construction/reconstruction/modification began after 7/23/1984.	§ 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(d) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3)	§ 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.116b(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)
T-1210	EU	R5112-4	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
T-1221A	EU	R5112-2	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
T-1221A	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
T-1221B	EU	R5112-2	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

### 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)
T-1221B	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
T-5655	EU	R5112-2	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
T-5655	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
T-5660	EU	R5112-3	VOC	30 TAC Chapter	§ 115.111(a)(1)	Except as provided in §	[G]§ 115.117	§ 115.118(a)(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, Storage of VOCs		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.		§ 115.118(a)(5) § 115.118(a)(7)	
T-5660	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
T-5672	EU	R5112-BACKUPC D	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(a)(1) § 115.112(a)(3)	Tanks shall not store VOC unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(a) or Table II(a).	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None
T-5672	EU	R5112-X3800	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(a)(1) § 115.112(a)(3)	Tanks shall not store VOC unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(a) or Table II(a).	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None
T-5672	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder	The permit holder shall comply with the applicable	The permit holder shall comply with	The permit holder shall comply with the	The permit holder shall comply with the

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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)
					shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	requirements of 40 CFR Part 63, Subpart YY	the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	applicable reporting requirements of 40 CFR Part 63, Subpart YY
UNLOAD	EU	R5211-1	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
UNLOAD	EU	R5211-2	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) § 115.212(a)(3)(B) [G]§ 115.212(a)(3)(C) § 115.212(a)(3)(D) § 115.214(a)(1)(B) § 115.214(a)(1)(C)	All land-based VOC transfer to or from transport vessels shall be conducted in the manner specified for leak-free operations.	§ 115.212(a)(3)(B) § 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.214(a)(1)(A)(ii) § 115.214(a)(1)(A)(iii)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(iii)	None
V-1123A	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

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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)
					§ 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670			§ 61.356(j)(3) § 61.356(j)(7)	
V-1123R	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-1215	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-1222	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A)	The owner or operator shall install, operate, and maintain a fixed-roof and	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i)	§ 61.354(c) § 61.354(c)(3) § 61.356(d)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)



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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)
					§ 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	
V-1223	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-1227X	EU	61FF-TO	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)

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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)
					§ 61.349(e) § 61.349(f) § 61.349(g)			§ 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	
V-1290	EU	R5112-4	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
V-1291	EU	R5112-4	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
V-3801X	EU	61FF-TO	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
V-4601	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

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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)
					§ 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	routes all organic vapors vented from the tank to a control device.	§ 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	
V-5651	EU	R5112-4	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
V-5651	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-5652	EU	R5112-4	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	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						requirements of this division.			
V-5652	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-8601	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
V-8602	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

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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)
					§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	control device.	§ 61.354(c)(3) [G]§ 61.355(h)	§ 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	
X-3800	CD	61FF-TO	Benzene	40 CFR Part 61, Subpart FF	§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent system and control device per the requirements specified in this section.	§ 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
X-3900	CD	61FF-TO	Benzene	40 CFR Part 61, Subpart FF	§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent system and control device per the requirements specified in this section.	§ 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
X3401	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with	The permit holder shall comply with the applicable requirements of 40 CFR	The permit holder shall comply with the applicable	The permit holder shall comply with the applicable	The permit holder shall comply with the applicable reporting

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					the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	Part 63, Subpart YY	monitoring and testing requirements of 40 CFR Part 63, Subpart YY	recordkeeping requirements of 40 CFR Part 63, Subpart YY	requirements of 40 CFR Part 63, Subpart YY
X3800VENT	EP	R5121-BACKUPC D	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(C)	Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices).	[G]§ 115.125 § 115.126(1) § 115.126(1)(C) § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(C) § 115.126(2)	None
X3800VENT	EP	R5121-X3800	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(C)	Vent gas streams affected by §115.121(a)(1) must be controlled properly with a control efficiency of at least 90% or to a volatile organic compound (VOC) concentration of no more than 20 parts per million (ppmv) (on a dry basis corrected to 3.0% oxygen for combustion devices).	[G]§ 115.125 § 115.126(1) § 115.126(1)(C) § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(C) § 115.126(2)	None
X3800VENT	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63,	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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					Subpart YY				
XF-4601	CD	R1111-1	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period. Non-excessive upset events are subject to the provisions under §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
XF-4601	CD	60A-01-LP	Opacity	40 CFR Part 60, Subpart A	§ 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(i) § 60.18(c)(6) § 60.18(e)	Flares shall comply with paragraphs (c)-(f) of § 60.18.	§ 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4)	None	None
XF-4601	CD	60A-02-LP	Opacity	40 CFR Part 60, Subpart A	§ 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(iii) § 60.18(c)(6) § 60.18(e)	Flares shall comply with paragraphs (c)-(f) of § 60.18.	§ 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4) § 60.18(f)(5)	None	None
XF-4601	CD	60A-03-LP	Opacity	40 CFR Part 60, Subpart A	§ 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii) § 60.18(c)(4)(ii) § 60.18(c)(6) § 60.18(e)	Flares shall comply with paragraphs (c)-(f) of § 60.18.	§ 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3) § 60.18(f)(4)	None	None
XF-4601	EU	61FF-FLARE	Benzene	40 CFR Part 61, Subpart FF	§ 61.349(a) § 60.18 § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent	§ 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2)(i)(D) § 61.356(h)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

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					§ 61.349(e) § 61.349(f) § 61.349(g) § 61.354(c) § 63.670	system and control device per the requirements specified in this section.		§ 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	
XF-4601	CD	63A-01-LP	Opacity	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
XF-4601	CD	63A-02-LP	Opacity	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(iii)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
XF-4601	CD	63A-03-LP	Opacity	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(ii)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
XF-4601	CD	63YY-CC	Opacity	40 CFR Part 63, Subpart YY	§ 63.670(c) [G]§ 63.1100(g)(7) [G]§ 63.1103(e)(4) § 63.670 § 63.670(b)	Visible emissions. The owner or operator shall specify the smokeless design capacity of each flare and operate with no	§ 63.670(b) § 63.670(b)(2)(i) § 63.670(b)(2)(ii) § 63.670(c) § 63.670(d)(3)	[G]§ 63.1109(e) § 63.670(b)(2)(ii) [G]§ 63.670(h) [G]§ 63.670(i) [G]§ 63.670(j)	§ 63.1110(d)(1)(iv) [G]§ 63.1110(e)(4) [G]§ 63.670(b)(2)(iii) [G]§ 63.670(h) [G]§ 63.670(j)



### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.670(b)(1) § 63.670(b)(2) § 63.670(d) § 63.670(d)(3) § 63.670(e) § 63.670(e)(2) § 63.670(o) [G]§ 63.670(o)(1) [G]§ 63.670(o)(2) [G]§ 63.670(o)(3) [G]§ 63.670(o)(4) [G]§ 63.670(o)(5) § 63.670(o)(6) [G]§ 63.670(o)(7) [G]§ 63.671(c)	visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, when regulated material is routed to the flare and the flare vent gas flow rate is less than the smokeless design capacity of the flare. The owner or operator shall monitor for visible emissions from the flare as specified in §63.670(h).	§ 63.670(e) § 63.670(g) [G]§ 63.670(h) [G]§ 63.670(i) [G]§ 63.670(j) [G]§ 63.670(k) [G]§ 63.670(l) [G]§ 63.670(m) [G]§ 63.671(a) [G]§ 63.671(b) [G]§ 63.671(c) [G]§ 63.671(d) [G]§ 63.671(e)	[G]§ 63.670(o)(1) [G]§ 63.670(o)(5) § 63.670(o)(6) § 63.670(p) [G]§ 63.671(a) [G]§ 63.671(b)	[G]§ 63.670(l) [G]§ 63.670(o)(2) § 63.670(q)
XF4601VENT	EP	R5121-1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.123(a)(1) § 115.910	Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division may be approved by the Executive Director in accordance with §115.910 of this title if emission reduction are demonstrated to be substantially equivalent.	[G]§ 115.125 § 115.126(2) ** See CAM Summary ** See Alternative Requirements	§ 115.126 § 115.126(2)	None
XF4601VENT	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63,	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

### 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)
					Subpart YY				
XT-5672	EU	R5131-BACKUPCD	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	None
XT-5672	EU	R5131-X3800	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(3) § 115.136(a)(4)	None
XT-5672	EU	61FF-FL	Benzene	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 60.18 § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 63.670	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 60.18(f)(2) § 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

**Additional Monitoring Requirements**

<b>Compliance Assurance Monitoring Summary .....</b>	<b>74</b>
<b>Periodic Monitoring Summary .....</b>	<b>77</b>

### CAM Summary

Unit/Group/Process Information	
ID No.: X3800VENT	
Control Device ID No.: BACKUP-CD	Control Device Type: Thermal incinerator (direct flame incinerator/regenerative thermal oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-BACKUPCD
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: Fire Box Combustion Temperature	
Minimum Frequency: Hourly	
Averaging Period: N/A	
<p>Deviation Limit: A minimum fire box temperature shall be maintained above 1,650 °F as designed. The final fire box temperature shall be established during last performance test while waste gas being fed to the unit excluding periods of startup and shutdown.</p> <p>CAM Text: Each monitoring device shall be accurate to within manufacturer's recommendations. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or other written procedures that provide an adequate assurance that the device is calibrated accurately.</p> <p>A minimum fire box temperature shall be maintained above 1,650 °F as designed. The final fire box temperature can be established during last performance test while waste gas being fed to the unit excluding periods of startup and shutdown or the 1,650 °F can be maintained.</p> <p>Maintain records of when temperature is not maintained and duration of events.</p>	

### CAM Summary

Unit/Group/Process Information	
ID No.: X3800VENT	
Control Device ID No.: X-3800	Control Device Type: Thermal incinerator (direct flame incinerator/regenerative thermal oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-X3800
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: Fire Box Combustion Temperature	
Minimum Frequency: four times per hour	
Averaging Period: one hour	
<p>Deviation Limit: A minimum fire box temperature shall be maintained above 1,400 °F as designed. The final fire box temperature shall be established during last performance test while waste gas being fed to the unit excluding periods of startup and shutdown.</p> <p>CAM Text: Each monitoring device shall be accurate to within manufacturer's recommendations. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent.</p> <p>The combustion temperature/exhaust temperature shall not be less than the temperature established during the performance testing to demonstrate necessary destruction efficiency of VOCs except during startup and shutdown. Maintain records when condition is not met.</p> <p>Maintain records of when temperature is not maintained and duration of events.</p>	

### CAM Summary

Unit/Group/Process Information	
ID No.: XF4601VENT	
Control Device ID No.: XF-4601	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-1
Pollutant: VOC	Main Standard: § 115.123(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: N/A	
Deviation Limit: Each of the eleven stages shall have two pilots and that at least one pilot shall be lit at all times.	
<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>Each monitoring device shall be accurate to within manufacture recommendation. Each monitoring device shall be calibrated at a frequency in accordance with the manufacture's specification or other written procedure that provide an adequate assurance that device is calibrated accurately.</p> <p>Maintain records of events when pilot flame is absent and duration of events.</p>	

### Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: GRP-FURNCAP	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-2
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once per week	
Averaging Period: N/A	
<p>Deviation Limit: There shall be no visible emissions. If visible emissions are observed, the permit holder shall report a deviation or perform Test Method 9 and opacity shall not exceed 15%.</p>	
<p>Periodic Monitoring Text: Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. 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.</p> <p>If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If the result of the Test Method 9 is opacity above the opacity limit in the applicable requirement, the permit holder shall report a deviation.</p>	

**Permit Shield**

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### Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
BLRFUG	N/A	40 CFR Part 60, Subpart VVa	Equipment not in VOC service with VOC less than 10% by weight.
BLRFUG	N/A	40 CFR Part 63, Subpart YY	Equipment does not contain or contact organic HAPs.
EMERGEN1	N/A	30 TAC Chapter 117, Subchapter B	The diesel engine is a new unit placed into service after November 15, 1992 and is not considered a functionally identical replacement.
EMERGEN2	N/A	30 TAC Chapter 117, Subchapter B	The diesel engine is a new unit placed into service after November 15, 1992 and is not considered a functionally identical replacement
GRP-FURNCAP	H-1101, H-1102, H-1103, H-1104, H-1105, H-1106	30 TAC Chapter 117, Subchapter B	The heaters are new units placed into service after November 15, 1992 and is not considered a functionally identical replacement.
GRP-FURNCAP	H-1101, H-1102, H-1103, H-1104, H-1105, H-1106	40 CFR Part 63, Subpart DDDDD	Ethylene cracking furnace covered by 40 CFR Part 63, Subpart YY is not subject to MACT DDDDD.
PKGBOIL1	N/A	30 TAC Chapter 117, Subchapter B	Boiler placed into service after November 15, 1992 and is not a functionally identical replacement for existing boiler.
PKGBOIL2	N/A	30 TAC Chapter 117, Subchapter B	Boiler placed into service after November 15, 1992 and is not a functionally identical replacement for existing boiler.
PKGBOIL3	N/A	30 TAC Chapter 117, Subchapter B	Boiler placed into service after November 15, 1992 and is not a functionally identical replacement for existing boiler.
PKGFUGBOIL	N/A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Fugitive components do not contain VOCs.

### Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
SCFUG	N/A	40 CFR Part 61, Subpart J	Equipment subject to NESHAPS J and MACT YY is required to comply only with MACT YY.
SCFUG	N/A	40 CFR Part 61, Subpart V	Equipment subject to NESHAPS V and MACT YY is required to comply only with MACT YY.
STMBLR	N/A	30 TAC Chapter 117, Subchapter B	Boiler placed into service after November 15, 1992 and is not a functionally identical replacement for existing boiler.
T-1202	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
T-1210	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
T-1210	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
T-1221A	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
T-1221A	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
T-1221B	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
T-1221B	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
T-5655	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
T-5655	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).

### Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
T-5660	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
T-5660	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
T-5672	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
V-1290	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity less than 19,800 gallons.
V-1290	N/A	40 CFR Part 63, Subpart YY	Storage vessel does not store an organic HAP as listed in Table 1 to MACT XX.
V-1291	N/A	40 CFR Part 63, Subpart YY	Storage vessel does not store an organic HAP as listed in Table 1 to MACT XX.
V-5651	N/A	40 CFR Part 60, Subpart Kb	Storage vessel storing a volatile liquid with a true vapor pressure less than 3.5 kilopascals (kPa).
V-5651	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
V-5652	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity less than 19,800 gallons.
V-5652	N/A	40 CFR Part 63, Subpart YY	The maximum true vapor pressure of total organic HAP stored is less than 3.4 kilopascals (kPa).
X-3800	N/A	30 TAC Chapter 117, Subchapter B	The vapor combustor is a new unit placed into service after November 15, 1992 and is not considered a functionally identical replacement.
X3401	N/A	40 CFR Part 63, Subpart Q	Cooling tower does not use any chromium based water treatment chemicals.

### Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
X3800VENT	N/A	40 CFR Part 60, Subpart NNN	Process vents from distillation units subject to 40 CFR Part 60 Subpart NNN and 40 CFR Part 63 Subpart YY are required to comply only with the requirements of MACT YY.
X3800VENT	N/A	40 CFR Part 60, Subpart RRR	Process vents from reactors subject to 40 CFR Part 60 Subpart RRR and 40 CFR Part 63 Subpart YY are required to comply only with the requirements of MACT YY.
XF4601VENT	N/A	40 CFR Part 60, Subpart NNN	Process vents from distillation units subject to 40 CFR Part 60 Subpart NNN and 40 CFR Part 63 Subpart YY are required to comply only with the requirements of MACT YY.
XF4601VENT	N/A	40 CFR Part 60, Subpart RRR	Process vents from reactors subject to 40 CFR Part 60 Subpart RRR and 40 CFR Part 63 Subpart YY are required to comply only with the requirements of MACT YY.

**New Source Review Authorization References**

<b>New Source Review Authorization References .....</b>	<b>84</b>
<b>New Source Review Authorization References by Emission Unit .....</b>	<b>85</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>Prevention of Significant Deterioration (PSD) Permits</b>	
PSD Permit No.: GHGPSDTX114M1	Issuance Date: 04/17/2025
PSD Permit No.: PSDTX1426M1	Issuance Date: 04/17/2025
<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.: 122353	Issuance Date: 04/17/2025
Authorization No.: 167321	Issuance Date: 01/04/2022
Authorization No.: 180479	Issuance Date: 07/02/2025
<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: 106.472	Version No./Date: 09/04/2000
Number: 106.473	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**
BLRFUG	STEAM BOILER FUGITIVES	122353, GHGPSDTX114M1, PSDTX1426M1
C-1121	BLOWDOWN STRIPPER	122353, PSDTX1426M1
C-1122	BLOWDOWN STRIPPER	122353, PSDTX1426M1
EMERGEN1	EMERGENCY GENERATOR 1	122353, GHGPSDTX114M1, PSDTX1426M1
EMERGEN2	EMERGENCY GENERATOR 2	122353, GHGPSDTX114M1, PSDTX1426M1
H-1101	CRACKING HEATER H-1101	122353, GHGPSDTX114M1, PSDTX1426M1
H-1102	CRACKING HEATER H-1102	122353, GHGPSDTX114M1, PSDTX1426M1
H-1103	CRACKING HEATER H-1103	122353, GHGPSDTX114M1, PSDTX1426M1
H-1104	CRACKING HEATER H-1104	122353, GHGPSDTX114M1, PSDTX1426M1
H-1105	CRACKING HEATER H-1105	122353, GHGPSDTX114M1, PSDTX1426M1
H-1106	CRACKING HEATER H-1106	122353, GHGPSDTX114M1, PSDTX1426M1
LOAD	SITE LOADING OPERATIONS	122353, PSDTX1426M1, 106.472/09/04/2000, 106.473/09/04/2000
PKGBOIL1	PACKAGED BOILER NO. 1	180479
PKGBOIL2	PACKAGED BOILER NO. 2	180479
PKGBOIL3	PACKAGED BOILER NO. 3	180479
PKGFBGBOIL	PACKAGED BOILERS FUGITIVE EMISSIONS	180479
PROPROCESS	PROCESS UNIT	122353, PSDTX1426M1
SCFUG	EQUIPMENT LEAK FUGITIVES	122353, GHGPSDTX114M1, PSDTX1426M1, 106.261/11/01/2003 [168247, 180852], 106.262/11/01/2003 [180852]
STMBLR	STEAM BOILER	122353, GHGPSDTX114M1, PSDTX1426M1

### 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**
T-1202	CRACKER BOTTOM PRODUCT TANK	122353, PSDTX1426M1
T-1210	WASH OIL STORAGE TANK	122353, PSDTX1426M1
T-1221A	SPENT CAUSTIC STORAGE TANK	122353, PSDTX1426M1
T-1221B	SPENT CAUSTIC STORAGE TANK	122353, PSDTX1426M1
T-5655	PROCESS WASTE EQUALIZATION TANK	122353, PSDTX1426M1
T-5660	BENZENE WASTE WATER TANK	122353, PSDTX1426M1
T-5672	INDUCED GAS FLOTATION TANK	122353, PSDTX1426M1
UNLOAD	SITE UNLOADING OPERATIONS	122353, PSDTX1426M1, 106.472/09/04/2000, 106.473/09/04/2000
V-1123A	PROCESS WATER COALESCER	122353, PSDTX1426M1
V-1123R	PROCESS WATER COALESCER	122353, PSDTX1426M1
V-1215	YELLOW OIL DEGASSING DRUM	122353, PSDTX1426M1
V-1222	YELLOW OIL DRUM	122353, PSDTX1426M1
V-1223	SPENT CAUSTIC SKIMMED YELLOW OIL DRUM	122353, PSDTX1426M1
V-1227X	WET AIR OXIDATION PACKAGE - SPENT CAUSTIC REACTOR	122353, PSDTX1426M1
V-1290	METHANOL STORAGE DRUM	122353, PSDTX1426M1
V-1291	DMDS STORAGE DRUM	122353, PSDTX1426M1
V-3801X	THERMAL OXIDIZER PACKAGE -OXYGENATED VENT KO DRUM	122353, PSDTX1426M1
V-4601	WET FLARE KO DRUM	122353, PSDTX1426M1
V-5651	WET SLOP OIL/FROTH HOLDING VESSEL	122353, PSDTX1426M1
V-5652	OILY SLUDGE STORAGE TANK	122353, PSDTX1426M1



### 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**
V-8601	QUENCH AREA HYDROCARBON SLOP VESSEL	122353, PSDTX1426M1
V-8602	CAUSTIC DRAIN SLOP VESSEL	122353, PSDTX1426M1
X-3800	THERMAL OXIDIZER	122353, GHGPSDTX114M1, PSDTX1426M1
X-3900	THERMAL OXIDIZER - BACKUP CONTROL DEVICE	122353, GHGPSDTX114M1, PSDTX1426M1
X3401	COOLING TOWER	122353, GHGPSDTX114M1, PSDTX1426M1
X3800VENT	THERMAL OXIDIZER PROCESS VENTS	122353, PSDTX1426M1
XF-4601	GROUND FLARE	122353, GHGPSDTX114M1, PSDTX1426M1, 106.261/11/01/2003 [168247, 180852], 106.262/11/01/2003 [180852]
XF4601VENT	GROUND FLARE PROCESS VENTS	122353, PSDTX1426M1
XT-5672	IGF SEPARATOR	122353, PSDTX1426M1
Z-5671A	CPI OIL/WATER SEPARATOR PACKAGE	122353, PSDTX1426M1
Z-5671B	CPI OIL/WATER SEPARATOR PACKAGE	122353, PSDTX1426M1

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

**Alternative Requirement**

**Alternative Requirement..... 89**

Jon Niermann, *Chairman*  
Emily Lindley, *Commissioner*  
Bobby Janecka, *Commissioner*  
Toby Baker, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

March 22, 2022

MR TOMMY CHAVEZ  
GENERAL MANAGER  
BAYPORT POLYMERS LLC  
7600 32ND ST  
PORT ARTHUR TX 77642-7901

Re: Alternative Method of Control (AMOC) No. 113  
Port Arthur Ethane Cracker  
Multipoint Ground Flare  
Regulated Entity Number: RN109845768  
Customer Reference Number: CN605458397  
Associated Permit Numbers: 122353, GHGPSDTX114, PSDTX1426, and O4161

Dear Mr. Chavez:

This correspondence is in response to Bayport Polymers LLC's (Baystar's) March 10, 2022 request for revisions to the AMOC for the multipoint ground flare (MPGF) system at the Ethane Cracker Unit and comply with applicable requirements of Title 30 Texas Administrative Code Chapter 115.

We understand there have been physical and operational changes to the MPGF (EPN: XF-4601) to lower flow rates at each of the burner tips and reduce overall operating temperature to ensure the integrity and effectiveness of the flare system to control gases vented from normal operations, planned maintenance, startup and shutdowns (MSS), and upsets. Based on the review of the information submitted, the MPGF system will continue to meet or exceed the requirements of §§ 115.122(a)(2).

The Texas Commission on Environmental Quality (TCEQ) Executive Director has made a final decision to approve your AMOC revision request. The TCEQ has been delegated authority to enforce the above cited standards and is authorized to approve this AMOC. You are reminded that approval of any AMOC shall not abrogate the Executive Director or Administrator's authority under the Act or in any way prohibit later canceling the AMOC. By copy of this letter we are informing the Environmental Protection Agency, Region 6, of this decision as required by TCEQ's delegation of authority.

This approval may change applicable requirements for the site, which are identified in the site operating permit (SOP) O4161. The TCEQ recommends the submittal of a SOP administrative revision if any changes are necessary. Changes meeting the criteria for an administrative revision can be operated before issuance of the revision if a complete application is submitted to the TCEQ and this information is maintained with the SOP records at the site.

If you need further information or have any questions, please contact Ms. Anne Inman, P.E. at (512) 239-1276 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

P.O. Box 13087 - Austin, Texas 78711-3087 - 512-239-1000 - [tceq.texas.gov](http://tceq.texas.gov)

*Have a customer service question? - [tceq.texas.gov/customer-service](http://tceq.texas.gov/customer-service)*

March 22, 2022  
Page 2  
MR TOMMY CHAVEZ

Re: Permit Numbers: 122353, GHGPSDTX114, PSDTX1426, and O4161

Sincerely,

A handwritten signature in black ink, appearing to read 'Samuel Short', followed by a long horizontal line extending to the right.

Samuel Short, Deputy Director  
Air Permits Division  
Office of Air  
Texas Commission on Environmental Quality

cc: Air Section Manager, Region 10 - Beaumont  
Jesse E. Chacon, P.E., Manager, Operating Permits Section, Air Permits Division, OA: MC-163  
Rebecca Partee, Manager, Chemical New Source Review Permits Section, Air Permits Division,  
OA: MC-163  
Air Permits Section Chief, New Source Review Section (6PD-R), U.S. Environmental Protection  
Agency, Region 6, Dallas

Project Number: 339875

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**



**Alternative Method of Control (AMOC) Plan  
Bayport Polymers, LLC (Baystar)  
AMOC No.: AMOC-113  
Ethane Cracker Unit  
Multi-Point Ground Flare (MPGF) System  
Port Arthur, Jefferson County, Regulated Entity Number: RN109845768**

- A. This AMOC Plan Authorization shall apply at the Bayport Polymers, LLC (Baystar), Ethane Cracker Unit located in Port Arthur, Jefferson County. This site is identified by Regulated Entity Number RN109845768. Under Title 30 Texas Administrative Code (TAC) Section 115.910 (§115.910) this plan authorizes a multi-point ground flare (MPGF) system identified as EPN XF-4601. This plan is specific to the high-pressure flare operations of the MPGF system which will be used during permitted routine process operations, planned maintenance, start-ups, and shutdowns (MSS), and non-permitted unplanned emergency and upset situations.
- B. A copy of the AMOC application and the AMOC Plan provisions must be kept on-site or at a centralized location and made available at the request of personnel from the TCEQ or any pollution control agency with jurisdiction. The AMOC application is defined by the application received 5/15/2018 and subsequent supporting documents dated through March 15, 2022.
- C. This authorization is granted under § 115.910 for emissions sources regulated by 30 TAC Chapter 115:
- Subchapter B: General Volatile Organic Compound Sources
    - Division 2: Vent Gas Control
    - Division 3: Water Separation
    - Division 4: Industrial Wastewater
  - Subchapter C: Volatile Organic Compound Transfer Operations
    - Division 1: Loading and Unloading of Volatile Organic Compounds
  - Subchapter D: Petroleum Refining, Natural Gas Processing, and Petrochemical Processes
    - Division 3: Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, And Petrochemical Processes in Ozone Nonattainment Areas
  - Subchapter F: Miscellaneous Industrial Sources
    - Division 3: Degassing of Storage Tanks, Transport Vessels and Marine Vessels

This AMOC shall apply in lieu of the requirements §§ 115.122(a)(1)-(2), as applicable. Compliance with this AMOC is independent of Baystar's obligation to comply with all other applicable requirements of 30 TAC Chapter 115, TCEQ permits, and applicable state and federal law. The monitoring and testing requirements of 30 TAC Chapter 115 shall continue to apply.

Compliance with the requirements of this plan does not assure compliance with requirements of an applicable New Source Performance Standard, applicable National Emission Standard for Hazardous Air Pollutants, or an Alternative Means of Emission Limitation (AMEL) and does not constitute approval of alternative standards for these regulations.

If an AMEL is granted by the U.S. Environmental Protection Agency (EPA) or federal authorization is provided in regulations, the company shall incorporate AMEL conditions into this AMOC by revision within 90 days if any changes are needed for consistency.

- D. In accordance with § 115.913(c), all representations submitted for this plan, as well as the provisions listed here, become conditions upon which this AMOC Plan is issued. It is unlawful to vary from the emission limits, control requirements, monitoring, testing, reporting or recordkeeping requirements of this Plan.
- E. The flare system EPN XF-4601 is authorized under Permits No. 122353, PSDTX1426, GHGPSDTX114 and subject to this AMOC plan. The flare system uses Zeeco MJ-4 burners controlling MSS and upset activities. When the High Pressure (HP) Vent Header sends waste gas to the MPGF, the burners will exceed the tip velocity portions of §60.18, §63.11, and 30 TAC Chapter 115. In these instances, the Zeeco MJ-4 burners and stages will meet the requirements in paragraph F.

The MPGF system will be 13 stages of burners for a total of 264 burners. For all stages, the distance between any two burners in series on any given stage must be no more than 6 feet when measured from the center of one burner to the next burner. Operations of the MPGF burners will achieve a reduction in emissions that will meet the reduction in emissions being controlled by a pressure assist flare during low- and high-pressure operations complying with the requirements of §§ 115.122(a)(2) or 40 CFR 60.18(b), with a VOC destruction effectiveness of 99%.

- F. When the burners exceed the tip velocity requirements of §60.18, §63.11, and 30 TAC Chapter 115, the burners must be operated such that the following are met:

1. **Operating Requirements:** The net heating value of the flare vent gas combustion zone ( $NHV_{cz}$ ) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf).

The owner or operator must demonstrate compliance with the  $NHV_{cz}$  metric by continuously complying with a 15-minute block average when regulated material is routed to the flare for at least 15-minutes. The owner or operator shall monitor and calculate  $NHV_{cz}$  as specified. The operator must calculate and monitor for the  $NHV_{cz}$  according to the following:

a. **Calculation of  $NHV_{cz}$**

- i. If any owner or operator elects to use a monitoring system capable of continuously measuring, calculating, and recording the individual component concentrations present in the flare gas, the net heating value shall be determined using the following equation: [§63.670(l)(1)]

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

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, British thermal units per standard cubic foot (Btu/scf).  
*Flare vent gas* means all gas found just prior to the MPGFs. This gas includes all flare waste gas (i.e., gas from facility operations that is directed to a flare for the purpose of disposing of the gas), flare sweep gas, flare purge gas and flare supplemental gas, but does not include pilot gas.

$i$  = Individual component in flare vent gas.

$n$  = Number of components in flare vent gas.

$x_i$  = Concentration of component  $i$  in flare vent gas, volume percent (vol %).

$NHV_i$  = Net heating value of component  $i$  determined as the heat of combustion where the net enthalpy per mole of offgas is based on combustion at 25 degrees Celsius (°C) and 1 atmosphere (or constant pressure) with water in the gaseous state from values published in the literature, and then the values converted to a volumetric basis using 20 °C for "standard temperature." Table 1 summarizes component properties including net heating values.

- ii. If the owner or operator uses a continuous net heating value monitor, the owner or operator may, at their discretion, install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the hydrogen concentration in the flare vent gas. The owner or operator shall use the following equation to determine  $NHV_{vg}$  for each sample measured via the net heating value monitoring system.

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

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, BTU/scf.

$NHV_{measured}$  = Net heating value of flare vent gas stream as measured by the continuous net heating value monitoring system, BTU/scf.

$X_{H_2}$  = Concentration of hydrogen in flare vent gas at the time the sample was input into the net heating value monitoring system, volume fraction.

938 = Net correction for the measured heating value of hydrogen 1,212-274 BTU/scf.

iii. *Direct Calculation Method:* For non-assisted flare burners,  $NHV_{vg} = NHV_{cz}$ .

- (A) If the results from the first sample collected during an event (for periodic flare 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.
- (B) 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 a.m. and the analysis is completed at 12:38 a.m., the results are available at 12:38 a.m. and these results would be used to determine compliance during the 15-minute block period from 12:30 a.m. to 12:45 a.m.

b. Calculation of  $V_{tip}$  is not applicable to this MPGF.

c. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring flare vent gas volumetric flow rate ( $Q_{vg}$ ).

- i. The flow rate monitoring system must be able to correct for the temperature and pressure of the system and output parameters in standard conditions (i.e., a temperature of 20 degrees C (68 ° F) and a pressure of 1 atmosphere).
- ii. Mass flow monitors may be used for determining volumetric flow rate of flare vent gas provided the molecular weight of the flare vent gas is determined using compositional analysis so that the mass flow rate can be converted to volumetric flow at standard conditions using the following equation:

$$Q_{vol} = \frac{Q_{mass} \times 385.3}{MW_t}$$

Where:

$Q_{vol}$  = volumetric flow rate in scf per second (scf/s).

$Q_{mass}$  = mass flow rate in pounds per second (lb/s)

385.3 = conversion factor scf per pound-mole

$MW_t$  = molecular weight of the gas at the flow monitoring location, pounds per pound-mole

e. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring (i.e., at least once every 15-minutes) temperature consistent with the applicable requirements in 30 TAC Chapter 115 for purposes of correcting flow rate to standard conditions. The monitor must meet the accuracy and calibration specifications annually.

For each measurement produced by monitoring systems, the operator shall determine the 15-minute block average as the arithmetic average of all measurements made by the monitoring system within the 15-minute period.

f. The operator must follow the calibration and maintenance procedures according to Table 2.



Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

**2. Pilot Flame Requirements:**

- a. The MPGF systems shall be operated with a flame present at all times when regulated material is routed to that stage of burners.
- b. Each stage of MPGF burners must have at least two pilots with at least one continuously lit pilot flame capable of igniting all regulated material that is routed to that stage of burners.
- c. Each pilot flame must be continuously monitored by a thermocouple or any other equivalent device (such as the video camera required for visible emission monitoring as outlined in 3 below), used to detect the presence of a flame.
- d. The time, date and duration of any complete loss of pilot flame on any stage of burners must be recorded.
- e. At all times, the owner or operator must operate and maintain monitoring equipment, in a manner consistent with good practices and manufacturer's specifications. Determination of whether such maintenance procedures are being used will be based on information available to the TCEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, and review of operation and maintenance records.
- f. Deviations:
  - i. Each 15-minute block during which there is at least one minute where no pilot flame is present when regulated material is routed to the flare is considered a deviation.
  - ii. Deviations in different 15-minute blocks from the same event are considered separate deviations.

**3. Visible Emission Requirements:** When the flare is receiving regulated material, the flare system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

- a. A video camera that is capable of continuously recording (*i.e.*, at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement.
- b. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.

Video camera downtime associated with maintenance periods and camera adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Maintenance and adjustment procedures conducted when the flare is not receiving regulated material are excluded from the video camera downtime calculation.

- c. The flare system shall comply with the requirements of the following:
  - i. The owner or operator shall conduct an initial visible emissions demonstration using an observation period of 2 hours using Method 22 at 40 CFR part 60, appendix A-7. The initial visible emissions demonstration should be conducted the first-time regulated materials are routed to the flare.
  - ii. Subsequent visible emissions observations must be conducted using either the methods in paragraphs (iii) or (iv) below. The owner or operator must record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours.



- iii. At least once per day for each day regulated material is routed to the flare, conduct visible emissions observations using an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A-7. If at any time the owner or operator sees visible emissions while regulated material is routed to the flare, even if the minimum required daily visible emission monitoring has already been performed, the owner or operator shall immediately begin an observation period of 5 minutes using Method 22 at 40 CFR 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 CFR part 60, appendix A-7 must be extended to 2 hours or until 5-minutes of visible emissions are observed. Daily 5-minute Method 22 observations are not required to be conducted for days the flare does not receive any regulated material.
- iv. 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 and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

#### 4. Pressure Monitor Requirements:

- a. The operator of the flare system shall install and operate pressure monitor(s) on the main flare header, and
- b. a valve position indicator monitoring systems for each staging valve to ensure that the flare system operates within the range of tested conditions or within the range of the manufacturer's specifications.
- c. The pressure monitor shall meet the requirements in Table 2.
- d. Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

#### 5. Recordkeeping Requirements: All data must be recorded and maintained for a minimum of five years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is longer. Records must be maintained onsite and made available upon request by authorized representatives of the executive director, U.S. EPA, and any local air pollution control agency with jurisdiction.

#### 6. Reporting Requirements

- a. The information specified in (b) and (c) below should be reported in the timeline specified by the applicable rules for which the flare system will control emissions.
- b. Owners or operators should include the final operating requirements for each flare in their initial Notification of Compliance (NOC) status report (including but not limited to the items listed in subparagraph F.6.c.
- c. The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports.
- d. All MPGF shall include the following in their NOC, reports, and records:
  - i. Each 15-minute block during which there was at least one minute when regulated material was routed to the MPGFs and a complete loss of pilot flame on any stage or any individual burner(s) occurred.
  - ii. Periods of visible emissions events (including time and date stamp) that exceed more than 5 minutes in any 2-hour consecutive period.
  - iii. Each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*, *NHVCz*) is not met for the flare system when regulated material is being combusted in the flare. Indicate the date and time for each period, the *NHVCz* operating parameter for the period, the type of monitoring system used to determine compliance with the operating parameters (*e.g.*, gas chromatograph or calorimeter), and the flare stages which were in use.

- iv. Periods when the pressure monitor(s) on the main flare header show the flare burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the stage(s) and number of flare burners affected and the range of tested conditions or manufacturer's specifications.
- v. Periods when the staging valve position indicator monitoring system indicates a stage of the flare system should not be in operation but is; or when a stage of the MPGF should be in operation but is not. Indicate the date and time for each period, whether the stage was supposed to be open but was closed or vice versa and the stage(s) and number of flare burners affected.

**Table 1 — Individual Component Properties**

<u>Component</u>	<u>Molecular Formula</u>	<u>MW<sub>i</sub></u> (lb/ lb mol)	<u>NHVi</u> (Btu/scf)	<u>LFL<sub>i</sub></u> (volume %)
Acetylene	C2H2	26.04	1,404	2.5
Benzene	C6H6	78.11	3,591	1.3
1,2- Butadiene	C4H6	54.09	2,794	2.0
1,3- Butadiene	C4H6	54.09	2,690	2.0
iso-Butane	C4H10	58.12	2,957	1.8
n-Butane	C4H10	58.12	2,968	1.8
cis-Butene	C4H8	56.11	2,830	1.6
iso-Butene	C4H8	56.11	2,928	1.8
trans-Butene	C4H8	56.11	2,826	1.7
Carbon Dioxide	CO2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C3H6	42.08	2,185	2.4
Ethane	C2H6	30.07	1,595	3.0
Ethylene	C2H4	28.05	1,477	2.7
Hydrogen	H2	2.02	1,212 <sup>(*)</sup>	4.0
Hydrogen Sulfide	H2S	34.08	587	4.0
Methane	CH4	16.04	896	5.0
MethylAcetylene	C3H4	40.06	2,088	1.7
Nitrogen	N2	28.01	0	∞
Oxygen	O2	32.00	0	∞
Pentane+ (C5+)	C5H12	72.15	3,655	1.4
Propadiene	C3H4	40.06	2,066	2.16
Propane	C3H8	44.10	2,281	2.1
Propylene	C3H6	42.08	2,150	2.4
Water	H2O	18.02	0	∞

\* The theoretical net heating value for hydrogen is 274 BTU/scf, but for the purposes of the flare requirement, a net heating value of 1,212 BTU/scf shall be used.

**Table 2 — Accuracy and Calibration Requirements**

<u>Parameter</u>	<u>Accuracy requirements</u>	<u>Calibration requirements</u>
Flare Vent Gas Flow Rate	<p>±20 percent of flow rate at velocities ranging from 0.1 to 1 <u>feet</u> per second.</p> <p>±5 percent of flow rate at velocities greater than 1 foot per second.</p>	<p>Performance evaluation biennially (every two years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale.</p> <p>Conduct monthly AVO fugitive emission monitoring on each connection point. Visual inspections and checks of system operation every 3 <u>months</u>, <u>unless</u> the system has a redundant flow sensor.</p>

		Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
Flow Rate for All Flows Other Than Flare Vent Gas	± 5% over normal range of flow measured or 0.5 gal/min whichever greater for liquid flow. ± 5% over normal range of flow measured 10 ft <sup>3</sup> /min, whichever greater for gas flow. ± 5% over normal range measured for mass flow	Conduct a flow sensor calibration check at least biennially (every 2 years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the continuous parameter monitoring system (CPMS) has a redundant flow sensor. Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
Pressure	±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.	Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated. Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Use an instrument recommended by the sensor's manufacturer for calibration checks. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation, and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
Net Heating Value by Calorimeter	±2 percent of span	Calibration requirements should follow manufacturer's recommendations at a minimum. Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation. Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.
Net Heating Value by Gas Chromatograph	As specified in Performance Specification 9 of 40 CFR part 60 Appendix B.	Follow the procedure in Performance Specification 9 of 40 CFR Part 60 Appendix B, except that a single daily mid-level calibration check can be used, a triplicate mid-level check weekly, and the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).
Hydrogen Analyzer	± 2% over concentration measured or 0.1 vol% whichever is greater	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Specify the sampling location at least 2 equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration occurs.

**Appendix A**

**Acronym List ..... 99**

## 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
RO .....	Responsible Official
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 ..... 101**

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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
FURNCAP (6)	Pyrolysis Furnace Block Emission Cap  (H-1101 through H-1106)	NO <sub>x</sub>	24.14	105.78	5, 9, 11, 12, 37, 41	5, 9, 11, 12, 37, 39, 41	5, 9, 12, 37, 41
		NO <sub>x</sub> (MSS) (8)	72.92				
		CO	90.35	395.76			
		VOC	4.82	21.16			
		SO <sub>2</sub>	1.68	6.00			
		SO <sub>2</sub> (MSS) (8)	1.68				
		PM	6.08	26.46			
		PM <sub>10</sub>	6.08	26.46			
		PM <sub>2.5</sub>	6.08	26.46			
		H <sub>2</sub> SO <sub>4</sub>	0.11	0.48			
		NH <sub>3</sub>	10.99	48.12			
H-1101, H-1102, H-1103, H-1104, H-1105, and H-	Pyrolysis Furnaces  (H-1101 through H-1107)	NO <sub>x</sub>	6.04	--	5, 9, 11, 12, 37, 41	5, 9, 11, 12, 37, 39, 41	5, 9, 12, 37, 41
		CO	15.06	--			
		VOC	0.80	--			

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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
1106 (7)		SO <sub>2</sub>	0.23	--			
		PM	1.01	--			
		PM <sub>10</sub>	1.01	--			
		PM <sub>2.5</sub>	1.01	--			
		H <sub>2</sub> SO <sub>4</sub>	0.02	--			
		NH <sub>3</sub>	1.83	--			
HDECOKE1	Decoke Cyclone 1	CO	280.00	65.34	5, 13	5, 13, 39	5
		PM	1.36	0.60			
		PM <sub>10</sub>	1.36	0.60			
		PM <sub>2.5</sub>	1.36	0.60			
HDECOKE2	Decoke Cyclone 2	CO	280.00	65.34	5, 13	5, 13, 39	5
		PM	1.36	0.60			
		PM <sub>10</sub>	1.36	0.60			
		PM <sub>2.5</sub>	1.36	0.60			



**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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
XF-4601	Multi-Point Ground Flare - Normal Multi-Point Ground Flare - MSS	NO <sub>x</sub>	8.29	35.86	3, 5, 14, 40	3, 5, 14, 39	3, 5, 14
		CO	33.03	142.82			
		VOC	13.86	59.93			
		SO <sub>2</sub>	0.34	1.48			
		NO <sub>x</sub>	919.05	58.41			
		CO	3,660.23	232.64			
		VOC	2,077.69	98.16			
		SO <sub>2</sub>	0.02	0.10			
X-3800	Thermal Oxidizer	NO <sub>x</sub>	0.65	--	3, 5, 15, 37	3, 5, 15, 37, 39	3, 5, 15, 37
		CO	0.41	--			
		VOC	0.65	--			
		SO <sub>2</sub>	0.02	--			
		PM	0.04	--			
		PM <sub>10</sub>	0.04	--			

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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>	0.04	--			
BACK-UP CD	Backup Thermal Oxidizer	NO <sub>x</sub>	0.65	--	3, 5, 15, 37	3, 5, 15, 37, 39	3, 5, 15, 37
		CO	0.41	--			
		VOC	0.65	--			
		SO <sub>2</sub>	0.02	--			
		PM	0.04	--			
		PM <sub>10</sub>	0.04	--			
		PM <sub>2.5</sub>	0.04	--			
X-3800 and BACK-UP CD	Total Annual Emissions for Thermal Oxidizer and Backup Thermal Oxidizer	NO <sub>x</sub>	--	3.40	3, 5, 15, 37	3, 5, 15, 37, 39	3, 5, 15, 37
		CO	--	2.14			
		VOC	--	0.12			
		SO <sub>2</sub>	--	0.11			
		PM	--	0.20			
		PM <sub>10</sub>	--	0.20			

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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>	--	0.20			
X-3401	Cooling Tower	VOC	6.30	27.59	5, 17	5, 17, 39	5, 17
		PM	0.92	4.03			
		PM <sub>10</sub>	0.71	3.11			
		PM <sub>2.5</sub>	0.01	0.01			
SCFUG (5)	Equipment Leak Fugitives	VOC	3.92	17.17	3, 5, 18, 19	3, 5, 18, 19, 39	3, 5, 18
		NH <sub>3</sub>	0.18	0.80			
BLRFUG (5)	Steam Boiler Fugitives	VOC	0.01	0.06	3, 5, 19	3, 5, 19, 39	3, 5
		NH <sub>3</sub>	0.01	0.04			
EMERGEN1	Emergency Generator 1	NO <sub>x</sub>	0.74	0.04	3, 5, 21	3, 5, 21, 39	3, 5
		CO	3.86	0.19			
		VOC	0.28	0.01			
		SO <sub>2</sub>	0.01	<0.01			
		PM	0.03	<0.01			

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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>10</sub>	0.03	<0.01			
		PM <sub>2.5</sub>	0.03	<0.01			
EMERGEN2	Emergency Generator 2	NO <sub>x</sub>	0.74	0.04	3, 5, 21	3, 5, 21, 39	3, 5
		CO	3.86	0.19			
		VOC	0.28	0.01			
		SO <sub>2</sub>	0.01	<0.01			
		PM	0.03	<0.01			
		PM <sub>10</sub>	0.03	<0.01			
		PM <sub>2.5</sub>	0.03	<0.01			
SCMSS	Planned MSS Activities	NO <sub>x</sub>	0.01	0.01	5, 29, 30, 32, 33, 34, 35, 36	5, 29, 30, 32, 33, 34, 35, 36, 39	5
		CO	0.01	0.01			
		VOC	42.18	4.78			
		PM	0.02	<0.01			
		PM <sub>10</sub>	0.01	<0.01			

**Major NSR Summary Table**

Permit Numbers: 122353 and PSDTX1426M1					Issuance Date: April 17, 2025		
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>	0.01	<0.01			
STMBLR	Steam Boiler	NO <sub>x</sub>	5.10	26.16(9)	3, 5, 22, 24, 25, 26, 28, 37	3, 5, 22, 26, 28, 37, 39	3, 5, 26, 28, 37
		NO <sub>x</sub> (MSS)	30.60				
		CO	18.85	85.39(9)			
		CO (MSS)	37.70				
		VOC	2.75	12.05			
		SO <sub>2</sub>	7.50	32.85			
		PM	3.80	16.64			
		PM <sub>10</sub>	3.80	16.64			
		PM <sub>2.5</sub>	3.80	16.64			
		NH <sub>3</sub>	2.29	10.03			

(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
NH <sub>3</sub>	- ammonia
H <sub>2</sub> SO <sub>4</sub>	- sulfuric acid

- (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 EPN FURNCAP is a short-term and annual cap of emissions from all furnaces, EPNs H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (7) These are the short-term emission rates of each furnace, EPNs H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (8) These emission rates apply across all furnaces in the cap when any one furnace is in one of the planned maintenance, startup and shutdown scenarios defined in the Special Conditions.
- (9) These emission rates represent the total annual ton per year (tpy) for MSS and Routine combined.

**Major NSR Summary Table**

Permit Number GHGPSDTX114M1					Issuance Date: April 17, 2025		
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
FURNCAP (7)	Pyrolysis Furnace Block (H-1101 through H-1106)	CO <sub>2</sub> (5)		1,154,397	3	3, 22, 23, 24	4
		CH <sub>4</sub> (5)		19.4			
		N <sub>2</sub> O (5)		2.3			
		CO <sub>2e</sub> (8)(9)		1,155,580			
		CO <sub>2e</sub> (10)		1,155,560			
SCFUG	Process Fugitive Emissions (6)	CO <sub>2</sub> (5)		3.5	14	14, 22, 23, 24	
		CH <sub>4</sub> (5)		60.0			
		CO <sub>2e</sub> (8)(9)		1,503			
		CO <sub>2e</sub> (10)		1,684			
BLRFUG	Steam Boiler Fugitives (6)	CO <sub>2</sub> (5)		0.04	14	14, 22, 23, 24	
		CH <sub>4</sub> (5)		0.84			
		CO <sub>2e</sub> (8)(9)		21			
		CO <sub>2e</sub> (10)		24			
XF-4601	Multi-Point Ground	CO <sub>2</sub> (5)		60,117	8, 9, 11	8, 9, 11, 22, 23, 24	11

**Major NSR Summary Table**

Permit Number GHGPSDTX114M1					Issuance Date: April 17, 2025		
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
	Flare	CH <sub>4</sub> (5)		130			
		N <sub>2</sub> O (5)		0.76			
		CO <sub>2e</sub> (8)(9)		63,496			
		CO <sub>2e</sub> (10)		63,958			
X-3800 and BACK-UP CD	Thermal Oxidizers	CO <sub>2</sub> (5)		11,399	10, 11	10, 11, 22, 23, 24	10, 11
		CH <sub>4</sub> (5)		0.15			
		N <sub>2</sub> O (5)		0.03			
		CO <sub>2e</sub> (8)(9)		11,412			
		CO <sub>2e</sub> (10)		11,411			
X-3401	Cooling Tower	CH <sub>4</sub> (5)		1.7	13	13, 22, 23, 24	
		CO <sub>2e</sub> (8)(9)		42			
		CO <sub>2e</sub> (10)		48			
EMERGEN1	Emergency Generator	CO <sub>2</sub> (5)		27.82	12	12, 22, 23, 24	12
		CH <sub>4</sub> (5)		<0.01			



**Major NSR Summary Table**

Permit Number GHGPSDTX114M1					Issuance Date: April 17, 2025		
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
		N <sub>2</sub> O (5)		<0.01			
		CO <sub>2e</sub> (8)(9)		27.90			
		CO <sub>2e</sub> (10)		28			
EMERGEN2	Emergency Generator	CO <sub>2</sub> (5)		27.82	12	12, 22, 23, 24	12
		CH <sub>4</sub> (5)		<0.01			
		N <sub>2</sub> O (5)		<0.01			
		CO <sub>2e</sub> (8)(9)		27.90			
		CO <sub>2e</sub> (10)		28			
HDECOKE1	Decoke Cyclone 1	CO <sub>2</sub> (5)		205.92	7	7, 22, 23, 24	
		CO <sub>2e</sub> (8)(9)(10)		205.92			
HDECOKE2	Decoke Cyclone 2	CO <sub>2</sub> (5)		205.92	7	7, 22, 23, 24	
		CO <sub>2e</sub> (8)(9)(10)		205.92			
STMBLR	Steam Boiler	CO <sub>2</sub> (5)		261,304	15	15, 22, 23, 24	
		CH <sub>4</sub> (5)		4.92			

**Major NSR Summary Table**

Permit Number GHGPSDTX114M1					Issuance Date: April 17, 2025		
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
		N <sub>2</sub> O (5)		0.49			
		CO <sub>2e</sub> (8)(9)		261,573.			
		CO <sub>2e</sub> (10)		261,572			

- (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) CO<sub>2</sub> - carbon dioxide  
N<sub>2</sub>O - nitrous oxide  
CH<sub>4</sub> - methane  
CO<sub>2e</sub> - carbon dioxide equivalents based on the following Global Warming Potentials (GWPs)  
The GWPs effective January 1, 2015 through December 31, 2024 (79 FR 73779, December 11, 2014) are the following:  
CO<sub>2</sub> (1), N<sub>2</sub>O (298), CH<sub>4</sub> (25).  
The GWPs effective January 1, 2025 and later (89 FR 31894, April 25, 2024) are the following:  
CO<sub>2</sub> (1), N<sub>2</sub>O (265), CH<sub>4</sub> (28).
- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
- (5) Emission rate is given for informational purposes only and does not constitute enforceable limit.
- (6) Emission rate is an estimate and is enforceable through compliance with the special conditions.
- (7) The EPN FURNCAP is a cap of annual emissions from Furnaces H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (8) Compliance with annual emission limits (tons per year) is demonstrated by compliance with emission limits given in permit 122353 and PSDTX1426M1.
- (9) CO<sub>2e</sub> calculated based on GWPs effective for January 1, 2015 through December 31, 2024, which are GWPs of 1 for CO<sub>2</sub>, 298 for N<sub>2</sub>O, 25 for CH<sub>4</sub>, and 22,800 for SF<sub>6</sub>.
- (10) CO<sub>2e</sub> calculated based on GWPs effective for January 1, 2025 and later, which are GWPs of 1 for CO<sub>2</sub>, 265 for N<sub>2</sub>O, 28 for CH<sub>4</sub>, and 23,500 for SF<sub>6</sub>.



## Texas Commission on Environmental Quality Air Quality Permit

*A Permit Is Hereby Issued To*  
**Bayport Polymers LLC**  
*Authorizing the Construction and Operation of*  
**Bayport Polymers**  
*Located at* **Port Arthur, Jefferson County, Texas**  
*Latitude* 29.963055 *Longitude* -93.890277

Permits: 122353, GHGPSDTX114M1 and  
PSDTX1426M1

Amendment Date: April 17, 2025

Expiration Date: January 17, 2027

A handwritten signature in black ink, appearing to read "K. Keel".

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  
 °F = Temperature in degrees Fahrenheit  
 °K = Temperature in degrees Kelvin  
 µg = microgram  
 µg/m<sup>3</sup> = microgram per cubic meter  
 acfm = actual cubic feet per minute  
 AMOC = alternate means of control  
 AOS = alternative operating scenario  
 AP-42 = Air Pollutant Emission Factors, 5th edition  
 APD = Air Permits Division  
 API = American Petroleum Institute  
 APWL = air pollutant watch list  
 BPA = Beaumont/ Port Arthur  
 BACT = best available control technology  
 BAE = baseline actual emissions  
 bbl = barrel  
 bbl/day = barrel per day  
 bhp = brake horsepower  
 BMP = best management practices  
 Btu = British thermal unit  
 Btu/scf = British thermal unit per standard cubic foot or feet  
 CAA = Clean Air Act  
 CAM = compliance-assurance monitoring  
 CEMS = continuous emissions monitoring systems  
 cfm = cubic feet (per) minute  
 CFR = Code of Federal Regulations  
 CN = customer ID number  
 CNG = compressed natural gas  
 CO = carbon monoxide  
 COMS = continuous opacity monitoring system  
 CPMS = continuous parametric monitoring system  
 DFW = Dallas/ Fort Worth (Metroplex)  
 DE = destruction efficiency  
 DRE = destruction and removal efficiency  
 dscf = dry standard cubic foot or feet  
 dscfm = dry standard cubic foot or feet per minute  
 ED = (TCEQ) Executive Director  
 EF = emissions factor  
 EFR = external floating roof tank  
 EGU = electric generating unit  
 EI = Emissions Inventory  
 ELP = El Paso  
 EPA = (United States) Environmental Protection Agency  
 EPN = emission point number  
 ESL = effects screening level  
 ESP = electrostatic precipitator  
 FCAA = Federal Clean Air Act  
 FCCU = fluid catalytic cracking unit  
 FID = flame ionization detector  
 FIN = facility identification number  
 ft = foot or feet  
 ft/sec = foot or feet per second  
 g = gram  
 gal/wk = gallon per week  
 gal/yr = gallon per year

GLC = ground level concentration  
 GLC<sub>max</sub> = maximum (predicted) ground-level concentration  
 gpm = gallon per minute  
 gr/1000scf = grain per 1000 standard cubic feet  
 gr/dscf = grain per dry standard cubic feet  
 H<sub>2</sub>CO = formaldehyde  
 H<sub>2</sub>S = hydrogen sulfide  
 H<sub>2</sub>SO<sub>4</sub> = sulfuric acid  
 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  
 HC = hydrocarbons  
 HCl = hydrochloric acid, hydrogen chloride  
 Hg = mercury  
 HGB = Houston/Galveston/Brazoria  
 hp = horsepower  
 hr = hour  
 IFR = internal floating roof tank  
 in H<sub>2</sub>O = inches of water  
 in Hg = inches of mercury  
 IR = infrared  
 ISC3 = Industrial Source Complex, a dispersion model  
 ISCST3 = Industrial Source Complex Short-Term, a dispersion model  
 K = Kelvin; extension of the degree Celsius scaled-down to absolute zero  
 LACT = lease automatic custody transfer  
 LAER = lowest achievable emission rate  
 lb = pound  
 lb/day = pound per day  
 lb/hr = pound per hour  
 lb/MMBtu = pound per million British thermal units  
 LDAR = Leak Detection and Repair (Requirements)  
 LNG = liquefied natural gas  
 LPG = liquefied petroleum gas  
 LT/D = long ton per day  
 m = meter  
 m<sup>3</sup> = cubic meter  
 m/sec = meters per second  
 MACT = maximum achievable control technology  
 MAERT = Maximum Allowable Emission Rate Table  
 MERA = Modeling and Effects Review Applicability  
 mg = milligram  
 mg/g = milligram per gram  
 mL = milliliter  
 MMBtu = million British thermal units  
 MMBtu/hr = million British thermal units per hour  
 MSDS = material safety data sheet  
 MSS = maintenance, startup, and shutdown  
 MW = megawatt  
 NAAQS = National Ambient Air Quality Standards  
 NESHAP = National Emission Standards for Hazardous Air Pollutants  
 NGL = natural gas liquids  
 NNSR = nonattainment new source review  
 NO<sub>x</sub> = total oxides of nitrogen  
 NSPS = New Source Performance Standards

PAL = plant-wide applicability limit  
PBR = Permit(s) by Rule  
PCP = pollution control project  
PEMS = predictive emission monitoring system  
PID = photo ionization detector  
PM = periodic monitoring  
PM = total particulate matter, suspended in the atmosphere, including 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 Numbers 122353 and PSDTX1426M1

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

### 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): **(11/20)**
  - A. Subpart A, General Provisions.
  - B. Subpart Kb, Volatile Organic Liquid Storage Vessels.
  - C. Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. **(04/25)**
  - D. Subpart VVa, Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI).
  - E. Subpart IIII, Stationary Compression Ignition Internal Combustion Engines.
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 (NESHAPs) in 40 CFR Part 61: **(11/20)**
  - A. Subpart A, General Provisions.
  - B. Subpart FF, Benzene Waste Operations.
5. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on NESHAPs for Source Categories in 40 CFR Part 63: **(11/20)**
  - A. Subpart A, General Provisions.
  - B. Subpart UU, Equipment Leaks – Control Level 2 Standards.
  - C. Subpart XX, Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations.
  - D. Subpart YY, General Maximum Achievable Control Technology (MACT) Standards.
  - E. Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines.
  - F. Subpart DDDDD, National Emission Standards for Hazardous air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. **(04/25)**

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**Emission Standards and Operational Specifications**

6. Unless specified in the special conditions of this permit, fired sources shall be fueled with pipeline quality natural gas containing no more than 5 grains of sulfur per dry standard cubic foot (scf) and/or plant produced high hydrogen fuel gas (process gas).
7. The natural gas shall be sampled every 6 months to determine total sulfur and net heating value. Test results from the fuel supplier may be used to satisfy this requirement.

***Pyrolysis Furnaces (EPNs H-1101 through H-1106) (11/20)***

8. Except as specified in Special Condition No. 36, emissions from each pyrolysis furnace shall not exceed the following emission limits:

Pollutant	24-hour average	12-month rolling average
Nitrogen Oxides (NO <sub>x</sub> )	0.015 lb/MMBtu	0.010 lb/MMBtu
Carbon Monoxide (CO)	50 ppmvd (3% oxygen)	50 ppmvd (3% oxygen)
Ammonia (NH <sub>3</sub> )	10 ppmvd (3% oxygen)	10 ppmvd (3% oxygen)

9. The permit holder shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of NO<sub>x</sub>, CO and oxygen (O<sub>2</sub>) from the pyrolysis furnaces. The in-stack concentration of ammonia will be measured and recorded according to the requirements of Special Condition 12.
  - A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, Title 40 Code of Federal Regulation Part 60 (40 CFR Part 60), Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division for requirements to be met.
  - B. Section 1 below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section 2 applies to all other sources:
    - (1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime, except for zero and span checks, shall be reported to the appropriate TCEQ Regional Manager semiannually, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.
    - (2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. The 24-hour span drift limit for ammonia is 20 ppmv at 3% oxygen. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit (RATA) is **not** required once every



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four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

An initial RATA is required for each CEMS subject to the quality assurance requirements of paragraph (2) of this Special Condition.

All CGA exceedances of  $\pm 15$  percent accuracy indicate that the CEMS is out of control. If the CEMS is out of control the permit holder shall take corrective action and conduct an additional CGA. In lieu of conducting a CGA, a RATA may be conducted to verify that the CEMS is back in control. During the period the CEMS is out of control, the CEMS data may not be used in calculating emission compliance.

- C. The monitoring data shall be reduced to hourly emission rates at least once every day, using a minimum of four equally spaced data points from each one-hour period. The measured concentrations shall be reduced to units of pounds per hour (lb/hr), ppmv and lb/MMBtu at least once every week as follows:

For concentration limits in units of ppmv, the measured concentration from the CEMS shall be averaged, using a minimum of four equally spaced data points from each one-hour period.

For hourly mass emission rate limits, the measured concentration from the CEMS shall be multiplied by the stack flow rate. The stack flow rate is calculated using the total fuel gas firing rate (natural gas and recovered process gas) measured by the continuous fuel monitoring system required by Special Condition 11, the excess oxygen measured in the stack, the ppmv rates measured by the CEMS, as well as the average  $F_d$  Factor for natural gas, propane, and butane published in EPA Reference Method 19, Equation 19-13. This measured concentration shall be averaged using a minimum of four equally spaced data points from each one-hour period. **(04/19)**

For concentration limits in units of lb/MMBtu, the mass emissions rate in lb/hr shall be divided by the total fuel gas firing rate (natural gas and recovered process gas) for the corresponding monitoring period to determine the emission rate for that monitoring period. The monitoring period must have a duration of 15-minutes or less. The calculated emission rates shall be reduced to an hourly average emission rate by averaging each of the calculated emission rates over the one-hour period. **(04/19)**

- D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.
- E. The appropriate TCEQ Regional Office shall be notified at least 21 days prior to any required RATA in order to provide them the opportunity to observe the testing.
- F. Quality-assured (or valid) data must be generated when the pyrolysis furnaces are operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, (including loss of connectivity to data storage system), out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the pyrolysis furnaces are operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.
10. If any emission monitor fails to meet specified performance, it shall be repaired or replaced as soon as reasonably possible.

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11. The holder of this permit shall additionally install, calibrate, maintain, and operate continuous monitoring systems to monitor and record the average hourly natural gas and process gas fuel consumption of pyrolysis furnaces. The monitored data shall be reduced to an hourly average flow rate at least once per day, using a minimum of four equally spaced data points from each one-hour period. The systems shall be accurate to  $\pm 5.0$  percent of the unit's maximum flow. The flow meters shall be maintained such that accurate monitoring data are provided at least 95 percent of the time that the pyrolysis furnaces are operating. **(04/19)**
12. The  $\text{NH}_3$  concentration in the pyrolysis furnace stacks shall be monitored, tested or calculated according to one of the methods listed below and shall be monitored, tested or calculated according to the one of the frequencies listed below. Determination of  $\text{NH}_3$  slip is only required when the SCR unit is in operation.

A block-one-hour average concentration shall be used to demonstrate compliance with the requirements of Special Condition 8, if the in-stack  $\text{NH}_3$  concentration is monitored according to the procedures identified in paragraphs B or C below.

If a method of continuous monitoring is implemented in accordance with paragraphs A, D, or E below, the monitor shall be subject to the accuracy tests, data completeness requirements, and averaging times located in Special Condition No. 9, except Special Condition No. 9.B(2) shall not apply to an  $\text{NH}_3$  CEMS implemented according to paragraph A below. **(07/20)**

- A. The holder of this permit may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of  $\text{NH}_3$ . If an  $\text{NH}_3$  CEMS is installed, it shall be designed and operated according to the principles and procedures of PPS-001. EPA Reference Method 320 or CTM-027 must also be followed as appropriate. In lieu of PPS-001 Section 9.3, the beam intensity associated with the CEMS shall be monitored and recorded daily, and corrective action taken when beam intensity falls below the level required to reliably report an accurate concentration measurement as determined via applicable compliance demonstration(s). During periods when the beam intensity associated with the CEMS is below the level required to reliably report an accurate concentration measurement, the CEMS data may not be used in calculating emission compliance. During periods when the CEMS data may not be used in calculating emission compliance,  $\text{NH}_3$  slip shall be determined in accordance with paragraph B below with the exception that the frequency of sorbent or stain tube testing described in paragraph B shall be at least weekly, instead of daily, if all of the following conditions are met: the SCR unit has been operational for at least 60 days, operating procedures have been developed to prevent an excess amount of  $\text{NH}_3$  from being introduced in the SCR unit, operation of the SCR unit has been proven successful with regard to controlling  $\text{NH}_3$  slip, and the catalyst has at least 30 days of useful life expectancy remaining.

An initial relative accuracy test audit (RATA) is required for each CEMS implemented in accordance with this paragraph. CEMS implemented in accordance with this paragraph shall undergo a quarterly validation procedure in accordance with PPS-001. After an initial RATA is performed, a RATA is not required when a quarterly validation is performed in accordance with PPS-001 once every four quarters (i.e., four successive quarterly validations may be conducted) for CEMS implemented in accordance with this paragraph. Successive quarterly validations shall occur no closer than two months. The  $\text{NH}_3$  concentrations shall be corrected and recorded in accordance with Special Condition No. 8. **(07/20)**

- B. As an approved alternative, the  $\text{NH}_3$  slip may be measured using a sorbent or stain tube device specific for  $\text{NH}_3$ , capable of measuring in the 5 to 10 parts per million (ppm) range. The frequency of sorbent or stain tube testing shall be daily for the first 60 days of operation, after which, the frequency may be reduced to weekly testing if operating procedures have

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been developed to prevent excess amount of  $\text{NH}_3$  from being introduced in the SCR unit and when operation of the SCR unit has been proven successful with regard to controlling  $\text{NH}_3$  slip. Daily sorbent or stain tube testing shall resume when the catalyst is within 30 days of its useful life expectancy. The  $\text{NH}_3$  concentration shall be recorded after each measurement in compliance with Special Condition No. 8.

- C. If the sorbent or stain tube testing indicates an ammonia slip concentration which exceeds 5 ppm at any time, the permit holder shall begin  $\text{NH}_3$  testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or EPA Conditional Test Method (CTM) 27 on a quarterly basis, in addition to the weekly sorbent or stain tube testing. The quarterly testing shall continue until such time as the SCR unit catalyst is replaced; or if the quarterly testing indicates  $\text{NH}_3$  slip is 4 ppm or less, the Phenol-Nitroprusside/Indophenol/CTM 27 tests may be suspended until sorbent or stain tube testing again indicate 5 ppm  $\text{NH}_3$  slip or greater. These results shall be recorded after each measurement in compliance with Special Condition No. 8.
- D. As an approved alternative to sorbent or stain tube testing or an  $\text{NH}_3$  CEMS, the permit holder may install and operate a second  $\text{NO}_x$  CEMS probe located upstream of the SCR and the stack  $\text{NO}_x$  CEMS, which may be used in association with the SCR efficiency and  $\text{NH}_3$  injection rate to estimate  $\text{NH}_3$  slip. This condition shall not be construed to set a minimum  $\text{NO}_x$  reduction efficiency on the SCR unit. The calculated emissions shall be recorded and used to determine compliance with Special Condition No. 8.
- E. As an approved alternative to sorbent or stain tube testing,  $\text{NH}_3$  CEMS, or a second  $\text{NO}_x$  CEMS, the permit holder may install and operate a dual stream system of  $\text{NO}_x$  CEMS at the exit of the SCR. One of the exhaust streams would be routed, in an unconverted state, to one  $\text{NO}_x$  CEMS and the other exhaust stream would be routed through a  $\text{NH}_3$  converter to convert  $\text{NH}_3$  to  $\text{NO}_x$  and then to a second  $\text{NO}_x$  CEMS. The  $\text{NH}_3$  slip concentration shall be calculated from the delta between the two  $\text{NO}_x$  CEMS readings (converted and unconverted). These results shall be recorded and used to determine compliance with Special Condition No. 8.
- F. Any other method used for measuring  $\text{NH}_3$  slip shall require prior approval from the TCEQ Air Permits Division in Austin.

***Decoke Cyclones (EPNs HDECOKE1 and HDECOKE2)***

13. The decoking cyclones shall be installed and operated in accordance with the following requirements:

- A. Opacity of emissions from the furnace decoking cyclones shall not exceed 15 percent, averaged over a six-minute period as determined using U.S. Environmental Protection Agency (EPA) Test Method 9.

Visible emissions shall be evaluated daily according to EPA Test Method 22. If visible emissions are detected during the daily EPA Method Test 22, then EPA Method 9 shall be conducted to determine if the opacity of emissions from the decoking cyclones are greater than 15 percent averaged over a six-minute period.

- B. Decoking for all six furnaces shall only be performed as needed and shall be limited to 1,764 hours per rolling 12-month period. **(11/20)**

Records of decoking occurrences and decoke cyclone hours of operation shall be maintained.

14. The multi-point ground flare (MPGF) (EPN: XF-4601) shall be designed and operated in accordance with the following requirements: **(03/22)**
- A. The flare system shall be designed such that it meets one of the following:
    - (1) The low-pressure stages shall meet 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.
    - (2) The high-pressure stages shall meet the design, operating, monitoring, recordkeeping, and reporting requirements of AMOC No. 113 approved March 22, 2022 (Attachment D). **(03/22)**
  - B. The following requirements apply to the capture system of EPN XF-4601:
    - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or
    - (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.
    - (3) The control device shall not have a 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.
    - (4) 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.

**Thermal Oxidizers (EPNs X-3800 and BACK-UP CD)**

15. The thermal oxidizers shall maintain the VOC or other contaminant concentration in the exhaust gas less than 10 ppmv on a dry basis, corrected to 3 percent oxygen, or achieve a VOC destruction efficiency greater than 99.9 percent. Only one thermal oxidizer shall receive waste gas at a time, while the other shall receive only natural gas to remain in stand-by mode. **(11/20)**
- A. The thermal oxidizers shall maintain a firebox exit temperature greater than or equal to 1400° for EPN X-3800 and 1,650 °F for EPN BACK-UP CD and an exhaust oxygen concentration not less than 3 percent on a six-minute average while waste gas is being fed into the oxidizer prior to initial stack testing. After the initial stack test has been completed, the six minute average temperature shall be equal to, or greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Special Condition No. 37. **(11/20)**
  - B. Each thermal oxidizer firebox exit temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and

maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .

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

- C. The oxygen analyzer used to satisfy paragraph A shall continuously monitor and record oxygen concentration when waste gas is directed to the oxidizer. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.

The oxygen analyzer shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified Performance Specification No. 3, 40 CFR Part 60, Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

The analyzer shall be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive semiannual audits shall occur no closer than four months. Necessary corrective action shall be taken for all CGA exceedances of  $\pm 15$  percent accuracy and any continuous emissions monitoring system downtime in excess of 5 percent of the incinerator operating time. All observed deviations, as well as actions taken to correct them shall be reported to the appropriate TCEQ Regional Director on a quarterly basis. The quarterly reports are not necessary if no deviations are observed. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

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

### **Storage Tanks**

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

- A. The tank emissions must be routed to a thermal oxidizer meeting the requirements of Special Condition No. 15 above.
- B. Except for labels, logos, etc. not to exceed 15 percent of the tank total surface area, uninsulated tank exterior surfaces exposed to the sun shall be white or unpainted aluminum. Storage tanks must be equipped with permanent submerged fill pipes.

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- C. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12-month period. The record shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions from tanks shall be calculated using the methods that were used to determine the MAERT limits in the permit application, PI-1 dated July 29, 2014. Sample calculations from the application shall be attached to a copy of this permit at the plant site.

**Cooling Tower (EPN X-3401)**

17. The cooling tower shall be operated and monitored in accordance with the following:

- A. The VOC associated with cooling tower water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12-month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12-month period. The emissions between VOC monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the 2 VOC monitored results.
- B. Cooling towers shall each be equipped with drift eliminators having manufacturer's design assurance of 0.001% drift or less. If a cooling tower cell is removed from service due to low cooling water demand or unit shutdown, the cell's drift eliminators shall be inspected and repaired if damage is found. Periods of low cooling water demand include partial process unit shutdowns and/or cold weather events. A cooling tower cell is considered removed from service when power to the cooling water cell's fan is isolated and entry into the cooling tower plenum can be performed safely. During each low demand period, the permit holder will determine the number of cells that can be removed from service and still meet process unit needs. The permit holder shall stagger the shutdown of the cooling tower cells during each cell shutdown to maximize the number of cells inspected during subsequent shutdowns. The permit holder shall maintain records of all inspections and repairs.
- C. Total dissolved solids (TDS) shall not exceed 1,225 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.
- D. Cooling towers shall be analyzed for particulate emissions using one of the following methods:
- (1) Cooling water shall be sampled at least once per day for total dissolved solids (TDS); or
  - (2) TDS monitoring may be reduced to weekly if conductivity is monitored daily and TDS is calculated using a ratio of TDS-to-conductivity (in ppmw per  $\mu\text{mho/cm}$  or ppmw/siemens). The ratio of TDS-to-conductivity shall be determined by concurrently monitoring TDS and conductivity on a weekly basis. The permit holder may use the average of two consecutive TDS-to-conductivity ratios to calculate daily TDS: or

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- (3) TDS monitoring may be reduced to quarterly if conductivity is monitored daily and TDS is calculated using a correlation factor established for each cooling tower. The correlation factor shall be the average of nine consecutive weekly TDS-to-conductivity ratios determined using C(2) above provided the highest ratio is not more than 10% larger than the smallest ratio.
  - (4) The permit holder shall validate the TDS-to-conductivity correlation factor once each calendar quarter. If the ratio of concurrently sampled TDS and conductivity is more than 10% higher or lower than the established factor, the permit holder shall increase TDS monitoring to weekly until a new correlation factor can be established.
- E. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.
  - (1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, 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.
  - (2) The analysis method for conductivity shall be either ASTM D1125-95A (field or routine laboratory testing) or ASTM D1125-95B (continuous monitor). The analysis may be conducted at the sample site or with a calibrated process conductivity meter. If a conductivity meter is used, it shall be calibrated at least annually. Documentation of the method and any associated calibration records shall be maintained.
  - (3) Alternate sampling and analysis methods may be used to comply with D(1) and D(2) with written approval from the TCEQ Regional Director.
  - (4) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.
- F. Emission rates of PM, PM<sub>10</sub> and PM<sub>2.5</sub> shall be calculated using the measured TDS and the ratio or correlation of TDS to conductivity measurements, 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.
- G. The actual cooling water circulation rate shall be measured at least hourly. Measurements shall be reduced to an hourly average and recorded for use in emission calculation. The maximum design cooling water circulation rate can be used to estimate emissions when the measured circulation rate is not available.

***Fugitives (EPN SCFUG) – Piping, Valves, Connectors, Pumps, Agitators, and Compressors - 28VHP***

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

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

- (1) piping and instrumentation diagram (PID).

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

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

  - (1) a cap, blind flange, plug, or second valve must be installed on the line or valve;  
or
  - (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72-hour period following the creation of the open-ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.
- F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to,



welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

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

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

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

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. These seal systems may include (but are not limited to) dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay

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of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I) or 500 pounds, whichever is greater, the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination. **(04/25)**

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.
- M. Compliance with Special Condition 18 shall occur within 180 days of initial startup. **(01/22)**

***Fugitives (EPNs SCFUG and BLRFUG) – Piping, Valves, Pumps, and Compressors NH<sub>3</sub> in Service***

19. The following requirements apply to the above-referenced equipment:

- A. Audio, olfactory, and visual (AVO) checks for leaks within the operating area shall be made at least once per 12-hour shift performed by operator walk-through may be conducted to satisfy the requirements of this condition. **(04/25)**
- B. Immediately, but no later than one hour upon detection of a leak, plant personnel shall take at least one of the following actions:
  - (1) Isolate the leak.
  - (2) Commence repair or replacement of the leaking component.
  - (3) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

Date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request.

- C. Compliance with Special Condition 19 shall occur within 180 days of initial startup. **(01/22)**

20. The permit holder shall submit a permit wide fugitive workbook at the next amendment or at least by the next renewal in 2027. This condition may be removed upon completion of this requirement. **(04/25)**

**Emergency Generators (EPN EMERGEN1 and EMERGEN2)**

21. The following requirements apply to the emergency generators: **(11/20)**

- A. Each diesel engines shall not exceed 100 hours of non-emergency operation per year on a rolling 12-month basis. The diesel engines must be equipped with a non-resettable runtime meter.
- B. Diesel fuel fired in the engine authorized in this permit shall contain no more than 15 parts per million sulfur by weight.

Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel or shall allow air pollution control agency representatives to obtain a sample for analysis

**Steam Boiler (EPN STMBLR) (04/25)**

22. Emissions from the Steam Boiler, identified as EPN STMBLR, shall not exceed the following, except during periods of planned maintenance, startup, and shutdown (MSS) or turndown:

- A. Unless allowed by part B or C of this condition:
  - (1) 50 parts per million by volume, dry basis (ppmvd) carbon monoxide (CO) at 3% oxygen (O<sub>2</sub>) on a three-hour average
  - (2) 0.01 pound per million British thermal unit (lb/MMBtu) of nitrogen oxides (NO<sub>x</sub>) on a one-hour average.
  - (3) The maximum authorized firing rate is limited to 510 MMBtu/hr on a one-hour average.
- B. Turndown mode shall be defined as when EPN STMBLR is firing at or below half (255 MMBtu/hr) of the maximum authorized firing rate. Emission rates during turndown mode shall not exceed those authorized for routine operation.
- C. The following applies to the Steam Boiler (EPN STMBLR) during SCR MSS and downtime:
  - (1) The Steam Boiler is authorized to operate without an SCR for no longer than 300 hours per rolling 12-month basis.
  - (2) The NO<sub>x</sub> emissions basis shall not exceed 0.06 lb/MMBtu during SCR MSS and downtime.
  - (3) The concentration of CO in the exhaust from the boiler shall not exceed 100 ppmvd, corrected to 3 percent oxygen during SCR MSS and downtime.
  - (4) Records of the boiler's firing rate and duration of SCR MSS and downtime shall be maintained on site for a period of five years and made available to designated representative of the TCEQ upon request.
  - (5) MSS emissions shall not exceed the hourly emission rates in the MAERT.
  - (6) Each planned MSS activity performed and associated emissions shall be recorded and the rolling 12-month emissions from planned MSS emissions updated, in pounds per hour, on a monthly basis. These records shall include the following information:
    - (a) The physical location at which the planned MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere.

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- (b) The type of planned MSS and the reason for the activity.
    - (c) The date and time of the planned MSS and its duration.
    - (d) The estimated quantity of each air contaminant or mixture of air contaminant emitted with the data and methods used to determine such quantities and contaminants as required by Special Condition 28F.
  - D. Compliance with the emission limits in Paragraph A through C above shall be demonstrated using a Continuous Emissions Monitoring System (CEMS) as outlined in Special Condition 28.
23. Authorized EPN STMBLR fuel is limited to pipeline-quality, sweet natural gas containing no more than 5 grains total sulfur per 100 dry standard cubic feet (dscf) on an hourly and annual basis.
24. Opacity of Boiler EPN STMBLR shall not exceed 5% averaged over any six-minute period. Opacity shall be determined by EPA Test Method 9 during the initial compliance testing and at least once per year thereafter. In lieu of performing a required opacity test, the permit holder may verify that there are no visible emissions as determined by EPA Test Method 22.

**Ammonia / Selective Catalytic Reduction (SCR) (04/25)**

25. The concentration of ammonia ( $\text{NH}_3$ ) from EPN STMBLR shall not exceed the following:
- A. 10 parts per million by volume dry (ppmvd) corrected to 3 percent oxygen ( $\text{O}_2$ ), on a rolling 24-hour average. This concentration limit shall not apply to MSS and/or turndown activities, during which emissions are limited by the emission rates shown on the MAERT.
  - B. Turndown mode is defined as when EPN STMBLR is firing at or below half of the maximum authorized firing rate. Emission rates during turndown mode shall not exceed those authorized for routine operations.
26. The  $\text{NH}_3$  concentration in the stack of EPN STMBLR shall be tested or calculated according to one of the methods listed below and shall be monitored according to one of the methods listed below. Monitoring  $\text{NH}_3$  slip is only required on days when the SCR unit is in operation.
- A. The permit holder may install a Tunable Diode Laser (TDL) technology to monitor the  $\text{NH}_3$  concentration in the steam boiler (EPN STMBLR). An initial RATA shall be conducted within 60 days of operation and must meet a relative accuracy standard of 20% or  $\pm 2$  ppmv (when the relative accuracy is calculated as the absolute average difference between the reference method specified by the manufacturer in the design and CEMS) using the calculation procedures of 40 CFR 60 Appendix B Performance Specification 2. In addition, a 7-day calibration drift check must be performed to ensure consistent performance of the CEMS. The TCEQ shall be notified at least 15 days in advance of all  $\text{NH}_3$  RATAs. The RATA test report shall be submitted to the TCEQ within 60 days of completion. Zero and span checks and quarterly audits must be performed as recommended by the manufacturer and required by the CEMS model to function accurately. The scope of the zero span checks and quarterly audits will follow methods and practices defined with the manufacturer at the time of installation. The CEMS shall be installed, operated, and maintained in accordance with the manufacturer's recommendations. Excessive inaccuracies shall be corrected in a reasonable time frame.
  - B. The permit holder may install and operate a second  $\text{NO}_x$  CEMS probe located before the SCR, upstream of the stack  $\text{NO}_x$  CEMS, which may be used in association with the SCR

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- efficiency and  $\text{NH}_3$  injection rate to estimate  $\text{NH}_3$  slip. This condition shall not be construed to set a minimum  $\text{NO}_x$  reduction efficiency on the SCR unit.
- C. The permit holder may install and operate a dual stream system of  $\text{NO}_x$  CEMS at the exit of the SCR. One of the exhaust streams would be routed, in an unconverted state, to one  $\text{NO}_x$  CEMS and the other exhaust stream would be routed through a  $\text{NH}_3$  converter to convert  $\text{NH}_3$  to  $\text{NO}_x$  and then to a second  $\text{NO}_x$  CEMS. The  $\text{NH}_3$  slip concentration shall be calculated from the delta between the two  $\text{NO}_x$  CEMS readings (converted and unconverted).
- D. During periods of TDL or CEMS downtime or during periods when TDL or CEMS data may not be used in determining compliance as specified in paragraphs A through C above (not to exceed 5% of the time (in minutes) that the Boiler (EPN STMBLR) operated over the previous rolling 12-month time period),  $\text{NH}_3$  slip shall be determined by the use of sorbent or stain tube testing on a weekly basis. For sorbent or stain tube testing to be used in determining compliance, all of the following conditions must be satisfied: the SCR unit has been operational for at least 60 days, operating procedures have been developed to prevent an excess amount of  $\text{NH}_3$  from being introduced in the SCR unit, operation of the SCR unit has been proven successful with regard to controlling  $\text{NH}_3$  slip, and the catalyst has at least 30 days of useful life expectancy remaining.
- E. Any other method used for measuring  $\text{NH}_3$  slip shall require prior approval from the TCEQ Office of Air, Air Permits Division.
27. The permit holder shall maintain prevention and protection measures for the  $\text{NH}_3$  storage system which include marking and securing the  $\text{NH}_3$  storage tank so as to protect the tank from accidents that could cause a rupture.

**Continuous Emissions Monitoring System (CEMS) (04/25)**

28. The permit holder shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of  $\text{NO}_x$ , CO, and  $\text{O}_2$  from the Boiler (EPN STMBLR).
- A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division for requirements to be met.
- B. Section 1 below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section 2 applies to all other sources:
- (1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, Section 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.
- (2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on

weekends and plant holidays if instrument technicians are not normally scheduled on those days.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive quarterly audits shall occur no closer than two months.

All CGA exceedances of +15 percent accuracy indicate that the CEMS is out of control.

- C. The monitoring data shall be reduced to hourly average concentrations at least once every day, using a minimum of four equally spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emission rates in pounds per hour and lb/MMBtu (hourly average) at least once every week per Method 19.
- D. All monitoring data and quality-assurance data shall be maintained by the source. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.
- E. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA to provide them the opportunity to observe the testing.
- F. Quality-assured (or valid) data must be generated when the Boiler (EPN STMBLR) are operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Boiler (EPN STMBLR) operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Manager.

#### **Planned Maintenance, Startup and Shutdown**

- 29. This permit authorizes the emissions from the planned MSS activities summarized in the MSS Activity Summary (Attachment C) attached to this permit.
  - A. Attachment A identifies the inherently low emitting MSS activities that may be performed at the plant. Emissions from activities identified in Attachment A shall be considered to be equal to the potential to emit represented in the permit application. The estimated emissions from the activities listed in Attachment A must be revalidated annually. This revalidation shall consist of the estimated emissions for each type of activity and the basis for that emission estimate.
  - B. Routine maintenance activities, as identified in Attachment B may be tracked through the work orders or equivalent. Emissions from activities identified in Attachment B shall be calculated using the number of work orders or equivalent that month and the emissions associated with that activity identified in the permit application.
  - C. In lieu of using the emission rates identified in the permit application for inherently low emitting MSS activities identified in Attachment A and routine maintenance activities identified on Attachment B to calculate and record emissions from MSS activities, the permit holder may record all information identified in parts D(1) through D(5) below.

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- D. The performance of each planned MSS activity not calculated using the procedures identified in paragraphs A and B above and the emissions associated with it shall be recorded and include at least the following information:
- (1) the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;
  - (2) the type of planned MSS activity and the reason for the planned activity;
  - (3) the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;
  - (4) the date and time of the MSS activity and its duration;
  - (5) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application, consistent with good engineering practice.

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

30. Process units and facilities, with the exception of those identified in Special Conditions 32 (Fixed Roof Tanks), 34 (Frac Tanks and Temporary Vessels), and Attachment A shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements.
- A. The process equipment shall be depressurized to a control device or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material that is liquid with VOC partial pressure less than 0.50 psi at the normal process temperature and 95°F may be opened to atmosphere and drained in accordance with paragraph C of this special condition. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.
  - B. If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. If the VOC partial pressure is greater than 0.50 psi at either the normal process temperature or 95°F, any vents in the system must be routed to a control device or a controlled recovery system. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. Control must remain in place until degassing has been completed or the system is no longer vented to atmosphere.
  - C. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Liquids must be drained into a closed vessel or closed liquid recovery system unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.
  - D. If the VOC partial pressure is greater than 0.50 psi at the normal process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC

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concentration following controlled depressurization. The venting shall be minimized to the maximum extent practicable, and actions taken recorded. The control device or recovery system utilized shall be recorded with the estimated emissions from controlled and uncontrolled degassing calculated using the methods that were used to determine allowable emissions for the permit application.

- (1) For MSS activities identified in Attachment B, the following option may be used in lieu of (2) below. The facilities being prepared for maintenance shall not be vented directly to atmosphere until the VOC concentration has been verified to be less than 10 percent of the lower explosive limit (LEL) per the site safety procedures.
- (2) The locations and/or identifiers where the purge gas or steam enters the process equipment or storage vessel and the exit points for the exhaust gases shall be recorded (process flow diagrams [PFDs], piping and instrumentation diagrams [P&IDs], or Turnaround and Inspection Plans [T&I Plans] may be used to demonstrate compliance with the requirement). If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify VOC concentration less than 10,000 ppmv or 10% LEL prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument meeting the requirements of Special Condition 31. The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. If there is not a connection (such as a sample, vent, or drain valve) available from which a representative sample may be obtained, a sample may be taken upon entry into the system after degassing has been completed. The sample shall be taken from inside the vessel so as to minimize any air or dilution from the entry point. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. Documented site procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above.

E. Gases and vapors with VOC partial pressure greater than 0.50 psi may be vented directly to atmosphere if all the following criteria are met:

- (1) It is not technically practicable to depressurize or degas, as applicable, into the process.
- (2) There is not an available connection to a plant control system (flare).
- (3) There is no more than 50 lb of air contaminant to be vented to atmosphere during shutdown or startup, as applicable.

All instances of venting directly to atmosphere per Special Condition 30.E must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B.

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

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



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

VOC Concentration = Concentration as read from the instrument\*RF

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

- (2) Sampling shall be performed as directed by this permit in lieu of section 8.3 of Method 21. During sampling, data recording shall not begin until after two times the instrument response time. The date and time shall be recorded, and VOC concentration shall be monitored for at least 5 minutes, recording VOC concentration each minute. As an alternative the VOC concentration may be monitored over a five-minute period with an instrument designed to continuously measure concentration and record the highest concentration read. The highest measured VOC concentration shall be recorded and shall not exceed the specified VOC concentration limit prior to uncontrolled venting.
- (3) If a TVA-1000 series FID analyzer calibrated with methane is used to determine the VOC concentration, a measured concentration of 34,000 ppmv may be considered equivalent to 10,000 ppmv as VOC.

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

- (1) The air contaminant concentration measured as defined in (3) is less than 80 percent of the range of the tube and is at least 20 percent of the maximum range of the tube.
- (2) The tube is used in accordance with the manufacturer's guidelines.
- (3) At least 2 samples taken at least 5 minutes apart must satisfy the following prior to uncontrolled venting:

measured contaminant concentration (ppmv) < release concentration.

Where the release concentration is:

(10,000 ppmv)\*mole fraction of the total air contaminants present that can be detected by the tube.

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

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

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

- (1) The detector shall be calibrated monthly with a certified pentane gas standard at 25% of the lower explosive limit (LEL) for pentane. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.
- (2) A functionality test shall be performed on each detector daily with a certified gas standard at 25% of the LEL for pentane. The LEL monitor shall read no lower than 90% of the calibration gas certified value. Records, including the date/time and test results, shall be maintained.

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- (3) A certified methane gas standard equivalent to 25% of the LEL for pentane may be used for calibration and functionality tests provided that the LEL response is within 95% of that for pentane.
- 32. This permit authorizes emissions from EPN SCMS for the storage tanks identified in the attached facility list during planned maintenance, startup and shutdown (MSS) activities. Fixed roof tanks shall only be opened for tank inspection/maintenance as identified in the permit application. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The following requirements apply to tank MSS:
  - A. After liquid has been drained to the maximum extent practicable using hard pipes, the storage tanks shall not be opened or ventilated without control except as allowed by the procedure in paragraph (1) below, until one of the criteria in paragraph B of this condition is satisfied.
    - (1) Minimize air circulation in the tank vapor space.
      - (a) One manway may be opened to allow access to the tank to remove or de-volatilize the remaining liquid. Other manways or access points may be opened as necessary to remove or de-volatilize the remaining liquid. Wind barriers shall be installed at all open manways and access points to minimize air flow through the tank.
      - (b) Access points shall be closed when not in use
  - B. Except as identified in paragraph A of this condition, the storage tank vents shall be directed to a control device at all times until both of the following criteria are satisfied:
    - (1) all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure less than 0.02 psia, and
    - (2) The VOC concentration in the vapor space is less than 10,000 ppmv.
      - (a) The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged.
  - C. The tank may be opened without restriction and ventilated without control, after all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure less than 0.02 psia. These criteria shall be demonstrated in any one of the following ways.
    - (1) Low VOC partial pressure liquid that is soluble with the liquid previously stored may be added to the tank to lower the VOC partial pressure of the liquid mixture remaining in the tank to less than 0.02 psia. This liquid shall be added during tank degassing if practicable. The estimated volume of liquid remaining in the drained tank and the volume and type of liquid added shall be recorded. The liquid VOC partial pressure may be estimated based on this information and engineering calculations.
    - (2) If water is added or sprayed into the tank to remove standing VOC, one of the following must be demonstrated:
      - (a) Take a representative sample of the liquid remaining in the tank and verify no visible sheen using the static sheen test from 40 CFR 435 Subpart A Appendix 1.

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- (b) Take a representative sample of the liquid remaining in the tank and verify hexane soluble VOC concentration is less than 1000 ppmw using EPA method 1664 (may also use 8260B or 5030 with 8015 from SW-846).
  - (c) Stop ventilation and close the tank for at least 24 hours. When the tank manway is opened after this period, verify VOC concentration is less than 1000 ppmv through the procedure in Special Condition 31.
- (3) No standing liquid verified through visual inspection.
- (4) Once the VOC vapor pressure of the liquid remaining in the tank is verified to be less than 0.02 psia in accordance with the procedures in paragraph (1) above any additional water flushes do not require additional vapor pressure verification.

The permit holder shall maintain records to document the method used to release the tank.

- D. The vapor space of the tank shall be directed to a control device when the tank is refilled. The control device used, and the method and locations used to connect the control device shall be recorded. All vents from the tank being filled must exit through the control device.
  - E. The occurrence of each storage tank MSS activity and the associated emissions shall be recorded, and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:
    - (1) the identification of the tank and emission point number, and any control devices or recovery systems used to reduce emissions;
    - (2) the reason for the activity;
    - (3) for the purpose of estimating emissions, the date, time, and other information specified for each of the following events:
      - (a) all liquid was pumped from the tank to the extent practical,
      - (b) start and completion of controlled degassing, and total volumetric flow,
      - (c) all standing liquid was removed from the tank or any transfers of low VOC partial pressure liquid to or from the tank including volumes and vapor pressures to reduce tank liquid VOC partial pressure to <0.02 psi,
      - (d) if there is liquid in the tank, VOC partial pressure of liquid, start and completion of uncontrolled degassing, and total volumetric flow,
    - (4) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted between events c and d with the data and methods used to determine it.
33. The following requirements apply to vacuum and air mover truck operations to support planned MSS at this site:
- A. Prior to initial use, identify any liquid in the truck. Record the liquid level and document the VOC partial pressure. After each liquid transfer, identify the liquid, the volume transferred, and its VOC partial pressure.
  - B. If vacuum pumps or blowers are operated when liquid is in or being transferred to the truck, the following requirements apply:
    - (1) During all transfers of liquid containing VOC which is transferred to the truck, the vacuum/blower exhaust shall be routed to a control device or a controlled recovery system.

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- (2) Equip fill line intake with a "duckbill" or equivalent attachment if the hose end cannot be submerged in the liquid being collected.
    - (3) A daily record containing the information identified below is required for each vacuum truck in operation at the site each day.
      - (a) For each liquid transfer made with the vacuum operating, record the duration of any periods when air may have been entrained with the liquid transfer. The reason for operating in this manner and whether a "duckbill" or equivalent was used shall be recorded. Short, incidental periods, such as those necessary to walk from the truck to the fill line intake, do not need to be documented.
      - (b) If the vacuum truck exhaust is controlled with a control device other than an engine or oxidizer, the VOC exhaust concentration shall be measured using an instrument meeting the requirements of Special Condition 31.A or 31.B upon commencing each transfer, at least once every hour after transfer starts and at the end of each transfer. Data collected from each sampling event shall be recorded. If colorimetric gas detector tubes allowed by Special Condition 31.B are used, only one sample tube is required per sampling event, with each sampling event no more than 1-hour apart.
  - C. Record the volume in the vacuum truck at the end of the day, or the volume unloaded, as applicable.
  - D. The permit holder shall determine the vacuum truck emissions each month using the daily vacuum truck records and the calculation methods utilized in the permit application. If records of the volume of liquid transferred for each pick-up are not maintained, the emissions shall be determined using the physical properties of the liquid vacuumed with the greatest potential emissions. Rolling 12-month vacuum truck emissions shall also be determined on a monthly basis.
  - E. If the VOC partial pressure of all the liquids vacuumed into the truck is less than 0.10 psi, this shall be recorded when the truck is unloaded or leaves the plant site, and the emissions may be estimated as the maximum potential to emit for a truck in that service as documented in the permit application. The recordkeeping requirements in paragraphs A through D above do not apply.
34. The following requirements apply to frac, or temporary, tanks and vessels used in support of MSS activities.
- A. Except for labels, logos, etc. that do not exceed 15% of the tank surface area, the exterior surfaces of these tanks/vessels that are exposed to the sun shall be white or aluminum. This requirement does not apply to tanks/vessels that only vent to atmosphere when being filled, sampled, gauged, or when removing material.
  - B. These tanks/vessels must be covered and equipped with fill pipes that discharge within 6 inches of the tank/vessel bottom.
  - C. These requirements do not apply to vessels storing less than 450 gallons of liquid that are closed such that the vessel does not vent to atmosphere except when filling, sampling, gauging, or when removing material.
  - D. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all frac tanks during the previous calendar month and the past consecutive 12-month period. This record must be updated by the last day of the month following. The record shall include tank identification number, dates put into and removed from service, control method used, tank capacity and volume of liquid stored in gallons, name of the

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material stored, VOC molecular weight, and VOC partial pressure at the estimated monthly average material temperature in psia. Filling emissions for tanks shall be calculated using the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Loading Operations" and standing emissions determined using: the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks."

- E. If the tank/vessel is used to store liquid with VOC partial pressure less than 0.10 psi at 95°F, or if all tank vents are routed to a control device, records may be limited to the days the tank is in service and the liquid stored. Emissions may be estimated based upon the potential to emit as identified in the permit application.
35. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.
36. All permanent facilities must comply with all operating requirements, limits, and representations of the permit during planned startup and shutdown unless alternate requirements and limits are identified in this permit. Alternate requirements for emissions from routine emission points are identified below.
- A. The NO<sub>x</sub> and CO-operating requirements for the pyrolysis furnaces identified in Special Condition No. 8 do not apply during the scenarios defined below:
    - (1) Start-up Mode – defined as the period beginning when fuel is introduced to the furnace and ending when the SCR catalyst bed reaches its stable operating temperature. A planned startup for each furnace is limited to 24 hours at 25% or less of the maximum allowable firing rate established in the most recent satisfactory stack test except during startups requiring refractory dry out which is limited to 72 hours at 25% or less of the maximum allowable firing rate.
    - (2) Shutdown Mode – defined as the period beginning when the SCR catalyst bed first drops below its stable operating temperature and ending when the fuel is removed from the furnace.
    - (3) Feed in Mode – defined as the period beginning when hydrocarbon feed is introduced to the furnace and ending when the furnace reaches 70% of the maximum allowable firing rate.
    - (4) Feed out Mode – defined as the period beginning when a furnace drops below 70% of the maximum allowable firing rate and ending when hydrocarbon feed is isolated from the furnace.
    - (5) Hot Steam Standby Mode – defined as the period when the furnace is firing at 50% or less of the maximum allowable firing rate and no hydrocarbon feed is being charged to the furnace.
    - (6) Decoking Mode – defined as the period starts when air is introduced to the furnace for the purpose of decoking and ends when air is removed from the furnace.
  - B. Operation of the pyrolysis furnaces in Start-up Mode or in Shutdown Mode as defined in paragraph A above shall not exceed a total of 280 hours per rolling 12-month period across all furnaces. The number of hours that each furnace operated in each mode shall be monitored and recorded on a monthly basis. The most recent month's records shall be totaled with the records from the preceding 11 months to determine the number of hours per rolling 12-month period.

This requirement does not apply during the initial shakedown period. The initial shakedown period begins with the initial startup of the first furnace and shall not exceed 180 days.

- C. Records shall be maintained indicating that the start times and end times of each of the activities identified above, and the duration of each activity. The records shall also include information sufficient to demonstrate when the start and end times occur based on the parameters that define each scenario.

### Initial Demonstration of Compliance

- 37. 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 pyrolysis furnaces (EPNs H-1101 through H-1106), the steam boiler (EPN STMBLR), and the thermal oxidizer (EPN X-3800) to demonstrate compliance with the MAERT, Special Condition No. 8, Special Condition No. 22, Special Condition No. 25, and to establish a minimum temperature as required by Special Condition No. 15.A. 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 Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods. **(04/25)**

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

- A. The appropriate TCEQ Regional Office shall be notified not less than 45 days prior to sampling. The notice shall include:

- (1) Proposed date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.
- (6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.
- (7) Procedure/parameters to be used to determine worst case emissions.

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 include (but are not limited to):

- (1) NO<sub>x</sub>, CO, and NH<sub>3</sub> emissions from the pyrolysis furnaces,
- (2) NO<sub>x</sub>, CO, and NH<sub>3</sub> emissions from the steam boiler, and
- (3) NO<sub>x</sub>, CO and VOC emissions from the thermal oxidizer.

- 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)

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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 pyrolysis furnace being sampled shall operate at the maximum allowable hourly firing rate during stack emission testing. The steam boiler shall operate at maximum hourly firing rate during stack emission testing. The thermal oxidizer shall operate at the maximum allowable waste gas flow rate. 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 actual hourly firing rate of any furnace, the maximum hourly firing rate of the steam boiler, or the actual waste gas flow rate to the thermal oxidizer is greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

- E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the appropriate TCEQ Regional Office.

One copy to each local air pollution control program.

- F. Sampling ports and platform(s) shall be incorporated into the design of the pyrolysis furnaces (EPNs H-1101 through H-1106), the steam boiler (EPN STMBLR), and the thermal oxidizer (EPN X-3800) according to the specifications set forth in the attachment entitled "Guidelines for Stack Sampling Facilities" of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

## Recordkeeping

38. The following records must be kept at the plant for the life of the permit. All records required in this permit must be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:

- A. A copy of this permit, and
- B. The permit application dated July 31, 2014, and subsequent representations submitted to the TCEQ.

39. The following information must be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:  
**(04/25)**

- A. Records of natural gas sulfur content in accordance with Special Condition No. 7.

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- B. Records of in-stack concentrations of NO<sub>x</sub>, CO and NH<sub>3</sub> to demonstrate compliance with Special Condition No. 8.
- C. Records of Method 9 and Method 22 and decoking hours of operation shall be maintained to demonstrate compliance with Special Condition No. 13.
- D. Records of ground flare waste gas flow, composition and net heating value in accordance with Special Condition No. 14.
- E. Records of thermal oxidizer firebox temperature and oxygen concentration in accordance with Special Condition No. 15.
- F. Records of calculated emissions from tanks in accordance with Special Condition No. 16.C.
- G. Records of cooling tower parameters in accordance with Special Condition No. 17.
- H. Records required by the fugitive monitoring programs in accordance with Special Condition Nos. 18 and 19.
- I. Emergency generator run time in accordance with Special Condition No. 21.
- J. Records of MSS activities in accordance with Special Condition No. 29- 36.
- K. Records of stack test results conducted in accordance with Special Condition No. 37.
- L. Records of all manufacturer specified installation, maintenance and calibration procedures for all monitors required to be installed, maintained and calibrated according to manufacturer specifications in accordance with the special conditions of this permit.
- M. Records of NO<sub>x</sub>, CO, NH<sub>3</sub>, and O<sub>2</sub> CEMS emissions data to demonstrate compliance with the emission rates listed in the MAERT.
- N. Raw data files of all CEMS data including calibration checks, periods of monitor break down, out-of-control operation (producing inaccurate data), repair, and maintenance performed on these systems.
- O. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each boiler. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally spaced data points from each one-hour period. 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 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of 40 Code of Federal Regulations (CFR) Part 60 Appendix B, Performance Specifications 6 or 40 CFR Part 75, Appendix A.

## Other Authorizations and Incorporation by Reference

40. The following sources and/or activities are authorized under a Permit by Rule (PBR) by Title 30 Texas Administrative Code Chapter 106 (30 TAC Chapter 106). These lists are not intended to be all inclusive and can be altered without modifications to this permit. **(03/22)**

Authorization	Source or activity
PBR 168247	MPGF pilots and fugitive components

## Visible Emissions Monitoring for the Pyrolysis Furnaces



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41. Weekly visible emission monitoring of the six Pyrolysis Furnaces (EPNs H-1101 through H-1106) shall be made by observing for the following: **(11/20)**
- A. Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. 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.
  - B. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity, consistent with Test Method 9, as soon as practicable but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.

Date: April 17, 2025

**Permit Numbers 122353 and PSDTX1426M1**

**Attachment A**

**Inherently Low Emitting Activities**

<b>Activity</b>	<b>Emissions</b>				
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM</b>	<b>H<sub>2</sub>S/SO<sub>2</sub></b>
Aerosol Cans	x				
Calibration of analytical equipment	x	x	x		x
Carbon can replacement	x				
Catalyst & Desiccants charging/handling				x	
Instrumentation/indicator/analyzer maintenance	x				
Meter proving	x				
Replacement of analyzer filters and screens	x				
Replacement, repair and inspections of gaskets	x				

Date: November 23, 2020

**Permit Numbers 122353 and PSDTX1426M1**

Attachment B

Routine Maintenance Activities

Pump repair/replacement

Fugitive component (valve, pipe, flange) repair/replacement

Compressor repair/replacement

Heat exchanger repair/replacement

Date: January 17, 2017

**Permit Numbers 122353 and PSDTX1426M1**

Attachment C

MSS Activity Summary

<b>Facilities</b>	<b>Description</b>	<b>Emissions Activity</b>	<b>EPN</b>
all process units	process unit shutdown/depressurize/drain	vent to multi-point ground flare	XF-4601
all process units	process unit purge/degas/drain	vent to atmosphere	SCMSS
all process units	process unit startup	vent to multi-point ground flare	XF-4601
all process units and tanks	preparation for facility/component repair/replacement	vent to multi-point ground flare	XF-4601
all process units and tanks	preparation for facility/component repair/replacement	vent to atmosphere	SCMSS
all process units and tanks	recovery from facility/component repair/replacement	vent to multi-point ground flare	XF-4601
all process units and tanks	recovery from facility/component repair/replacement	vent to atmosphere	SCMSS
all process units and tanks	preparation for unit turnaround or facility/component repair/replacement	remove liquid	SCMSS
see Attachment A	miscellaneous low emitting activities	see Attachment A	SCMSS

Date: January 17, 2017

**Permit Numbers 122353 and PSDTX1426M1**

Attachment D

Alternative Method of Control (AMOC) No. 113

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**Alternative Method of Control (AMOC) Plan  
Bayport Polymers, LLC (Baystar)  
AMOC No.: AMOC-113  
Ethane Cracker Unit  
Multi-Point Ground Flare (MPGF) System  
Port Arthur, Jefferson County, Regulated Entity Number: RN109845768**

- A. This AMOC Plan Authorization shall apply at the Bayport Polymers, LLC (Baystar), Ethane Cracker Unit located in Port Arthur, Jefferson County. This site is identified by Regulated Entity Number RN109845768. Under Title 30 Texas Administrative Code (TAC) Section 115.910 (§115.910) this plan authorizes a multi-point ground flare (MPGF) system identified as EPN XF-4601. This plan is specific to the high-pressure flare operations of the MPGF system which will be used during permitted routine process operations, planned maintenance, start-ups, and shutdowns (MSS), and non-permitted unplanned emergency and upset situations.
- B. A copy of the AMOC application and the AMOC Plan provisions must be kept on-site or at a centralized location and made available at the request of personnel from the TCEQ or any pollution control agency with jurisdiction. The AMOC application is defined by the application received 5/15/2018 and subsequent supporting documents dated through March 15, 2022.
- C. This authorization is granted under § 115.910 for emissions sources regulated by 30 TAC Chapter 115:

**Subchapter B: General Volatile Organic Compound Sources**

- Division 2: Vent Gas Control
- Division 3: Water Separation
- Division 4: Industrial Wastewater

**Subchapter C: Volatile Organic Compound Transfer Operations**

- Division 1: Loading and Unloading of Volatile Organic Compounds

**Subchapter D: Petroleum Refining, Natural Gas Processing, and Petrochemical Processes**

- Division 3: Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, And Petrochemical Processes in Ozone Nonattainment Areas

**Subchapter F: Miscellaneous Industrial Sources**

- Division 3: Degassing of Storage Tanks, Transport Vessels and Marine Vessels

This AMOC shall apply in lieu of the requirements §§ 115.122(a)(1)-(2), as applicable. Compliance with this AMOC is independent of Baystar's obligation to comply with all other applicable requirements of 30 TAC Chapter 115, TCEQ permits, and applicable state and federal law. The monitoring and testing requirements of 30 TAC Chapter 115 shall continue to apply.

Compliance with the requirements of this plan does not assure compliance with requirements of an applicable New Source Performance Standard, applicable National Emission Standard for Hazardous

Air Pollutants, or an Alternative Means of Emission Limitation (AMEL) and does not constitute approval of alternative standards for these regulations.

If an AMEL is granted by the U.S. Environmental Protection Agency (EPA) or federal authorization is provided in regulations, the company shall incorporate AMEL conditions into this AMOC by revision within 90 days if any changes are needed for consistency.

- D. In accordance with § 115.913(c), all representations submitted for this plan, as well as the provisions listed here, become conditions upon which this AMOC Plan is issued. It is unlawful to vary from the emission limits, control requirements, monitoring, testing, reporting or recordkeeping requirements of this Plan.
- E. The flare system EPN XF-4601 is authorized under Permits No. 122353, PSDTX1426M1, GHGPSDTX114M1 and subject to this AMOC plan. The flare system uses Zeeco MJ-4 burners controlling MSS and upset activities. When the High Pressure (HP) Vent Header sends waste gas to the MPGF, the burners will exceed the tip velocity portions of §60.18, §63.11, and 30 TAC Chapter 115. In these instances, the Zeeco MJ-4 burners and stages will meet the requirements in paragraph F.

The MPGF system will be 13 stages of burners for a total of 264 burners. For all stages, the distance between any two burners in series on any given stage must be no more than 6 feet when measured from the center of one burner to the next burner. Operations of the MPGF burners will achieve a reduction in emissions that will meet the reduction in emissions being controlled by a pressure assist flare during low- and high-pressure operations complying with the requirements of §§ 115.122(a)(2) or 40 CFR 60.18(b), with a VOC destruction effectiveness of 99%.

- F. When the burners exceed the tip velocity requirements of §60.18, §63.11, and 30 TAC Chapter 115, the burners must be operated such that the following are met:
1. **Operating Requirements:** The net heating value of the flare vent gas combustion zone ( $NHV_{cz}$ ) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf).

The owner or operator must demonstrate compliance with the  $NHV_{cz}$  metric by continuously complying with a 15-minute block average when regulated material is routed to the flare for at least 15-minutes. The owner or operator shall monitor and calculate  $NHV_{cz}$  as specified. The operator must calculate and monitor for the  $NHV_{cz}$  according to the following:

a. **Calculation of  $NHV_{cz}$**

- i. If any owner or operator elects to use a monitoring system capable of continuously measuring, calculating, and recording the individual component concentrations present in the flare gas, the net heating value shall be determined using the following equation:  
[§63.670(l)(1)]

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, British thermal units per standard cubic foot (Btu/scf). *Flare vent gas* means all gas found just prior to the MPGFs. This gas includes all flare waste gas (i.e., gas from facility operations that is directed to a flare for the purpose of disposing of the gas), flare sweep gas, flare purge gas and flare supplemental gas, but does not include pilot gas.

$i$  = Individual component in flare vent gas.

$n$  = Number of components in flare vent gas.

$x_i$  = Concentration of component  $i$  in flare vent gas, volume percent (vol %).

$NHV_i$  = Net heating value of component  $i$  determined as the heat of combustion where the net enthalpy per mole of offgas is based on combustion at 25 degrees

Celsius (°C) and 1 atmosphere (or constant pressure) with water in the gaseous state from values published in the literature, and then the values converted to a volumetric basis using 20 °C for “standard temperature.” Table 1 summarizes component properties including net heating values.

- ii. If the owner or operator uses a continuous net heating value monitor, the owner or operator may, at their discretion, install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the hydrogen concentration in the flare vent gas. The owner or operator shall use the following equation to determine  $NHV_{vg}$  for each sample measured via the net heating value monitoring system.

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

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, BTU/scf.

$NHV_{measured}$  = Net heating value of flare vent gas stream as measured by the continuous net heating value monitoring system, BTU/scf.

$X_{H2}$  = Concentration of hydrogen in flare vent gas at the time the sample was input into the net heating value monitoring system, volume fraction.

938 = Net correction for the measured heating value of hydrogen 1,212-274 BTU/scf.

- iii. *Direct Calculation Method:* For non-assisted flare burners,  $NHV_{vg} = NHV_{cz}$ .

1. If the results from the first sample collected during an event (for periodic flare 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 a.m. and the analysis is completed at 12:38 a.m., the results are available at 12:38 a.m. and these results would be used to determine compliance during the 15-minute block period from 12:30 a.m. to 12:45 a.m.

b. Calculation of  $V_{tip}$  is not applicable to this MPGF.

c. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring flare vent gas volumetric flow rate ( $Q_{vg}$ ).

- i. The flow rate monitoring system must be able to correct for the temperature and pressure of the system and output parameters in standard conditions (i.e., a temperature of 20 degrees C (68 ° F) and a pressure of 1 atmosphere).



- ii. Mass flow monitors may be used for determining volumetric flow rate of flare vent gas provided the molecular weight of the flare vent gas is determined using compositional analysis so that the mass flow rate can be converted to volumetric flow at standard conditions using the following equation:

Where:

$Q_{vol}$  = volumetric flow rate in scf per second (scf/s).

$Q_{mass}$  = mass flow rate in pounds per second (lb/s)

385.3 = conversion factor scf per pound-mole

$MW_i$  = molecular weight of the gas at the flow monitoring location, pounds per pound-mole

- e. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring (i.e., at least once every 15-minutes) temperature consistent with the applicable requirements in 30 TAC Chapter 115 for purposes of correcting flow rate to standard conditions. The monitor must meet the accuracy and calibration specifications annually.

For each measurement produced by monitoring systems, the operator shall determine the 15-minute block average as the arithmetic average of all measurements made by the monitoring system within the 15-minute period.

- f. The operator must follow the calibration and maintenance procedures according to Table 2.

Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

## 2. Pilot Flame Requirements:

- a. The MPGF systems shall be operated with a flame present at all times when regulated material is routed to that stage of burners.
- b. Each stage of MPGF burners must have at least two pilots with at least one continuously lit pilot flame capable of igniting all regulated material that is routed to that stage of burners.
- c. Each pilot flame must be continuously monitored by a thermocouple or any other equivalent device (such as the video camera required for visible emission monitoring as outlined in 3 below), used to detect the presence of a flame.
- d. The time, date and duration of any complete loss of pilot flame on any stage of burners must be recorded.
- e. At all times, the owner or operator must operate and maintain monitoring equipment, in a manner consistent with good practices and manufacturer's specifications. Determination of whether such maintenance procedures are being used will be based on information available to the TCEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, and review of operation and maintenance records.
- f. Deviations:

- i. Each 15-minute block during which there is at least one minute where no pilot flame is present when regulated material is routed to the flare is considered a deviation.
  - ii. Deviations in different 15-minute blocks from the same event are considered separate deviations.
- 3. **Visible Emission Requirements:** When the flare is receiving regulated material, the flare system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
  - a. A video camera that is capable of continuously recording (*i.e.*, at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement.
  - b. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.

Video camera downtime associated with maintenance periods and camera adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Maintenance and adjustment procedures conducted when the flare is not receiving regulated material are excluded from the video camera downtime calculation.

- c. The flare system shall comply with the requirements of the following:
    - i. The owner or operator shall conduct an initial visible emissions demonstration using an observation period of 2 hours using Method 22 at 40 CFR part 60, appendix A-7. The initial visible emissions demonstration should be conducted the first-time regulated materials are routed to the flare.
    - ii. Subsequent visible emissions observations must be conducted using either the methods in paragraphs (iii) or (iv) below. The owner or operator must record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours.
    - iii. At least once per day for each day regulated material is routed to the flare, conduct visible emissions observations using an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A-7. If at any time the owner or operator sees visible emissions while regulated material is routed to the flare, even if the minimum required daily visible emission monitoring has already been performed, the owner or operator shall immediately begin an observation period of 5 minutes using Method 22 at 40 CFR 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 CFR part 60, appendix A-7 must be extended to 2 hours or until 5-minutes of visible emissions are observed. Daily 5-minute Method 22 observations are not required to be conducted for days the flare does not receive any regulated material.
    - iv. 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 and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

#### 4. **Pressure Monitor Requirements:**

- a. The operator of the flare system shall install and operate pressure monitor(s) on the main flare header, and
- b. a valve position indicator monitoring systems for each staging valve to ensure that the flare system operates within the range of tested conditions or within the range of the manufacturer's specifications.
- c. The pressure monitor shall meet the requirements in Table 2.
- d. Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

#### 5. **Recordkeeping Requirements:** All data must be recorded and maintained for a minimum of five years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is longer. Records must be maintained onsite and made available upon request by authorized representatives of the executive director, U.S. EPA, and any local air pollution control agency with jurisdiction.

#### 6. **Reporting Requirements**

- a. The information specified in (b) and (c) below should be reported in the timeline specified by the applicable rules for which the flare system will control emissions.
- b. Owners or operators should include the final operating requirements for each flare in their initial Notification of Compliance (NOC) status report (including but not limited to the items listed in subparagraph F.6.c.
- c. The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports.
- d. All MPGF shall include the following in their NOC, reports, and records:
  - i. Each 15-minute block during which there was at least one minute when regulated material was routed to the MPGFs and a complete loss of pilot flame on any stage or any individual burner(s) occurred.
  - ii. Periods of visible emissions events (including time and date stamp) that exceed more than 5 minutes in any 2-hour consecutive period.
  - iii. Each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*, *NHVCz*) is not met for the flare system when regulated material is being combusted in the flare. Indicate the date and time for each period, the *NHVCz* operating parameter for the period, the type of monitoring system used to determine compliance with the operating parameters (*e.g.*, gas chromatograph or calorimeter), and the flare stages which were in use.
  - iv. Periods when the pressure monitor(s) on the main flare header show the flare burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the

stage(s) and number of flare burners affected and the range of tested conditions or manufacturer's specifications.

- v. Periods when the staging valve position indicator monitoring system indicates a stage of the flare system should not be in operation but is; or when a stage of the MPGF should be in operation but is not. Indicate the date and time for each period, whether the stage was supposed to be open but was closed or vice versa and the stage(s) and number of flare burners affected.

**Table 1 — Individual Component Properties**

<b><u>Component</u></b>	<b><u>Molecular Formula</u></b>	<b><u>MWi (lb/ lb mol)</u></b>	<b><u>NHVi (Btu/scf)</u></b>	<b><u>LFLi (volume %)</u></b>
Acetylene	C2H2	26.04	1,404	2.5
Benzene	C6H6	78.11	3,591	1.3
1,2- Butadiene	C4H6	54.09	2,794	2.0
1,3- Butadiene	C4H6	54.09	2,690	2.0
iso-Butane	C4H10	58.12	2,957	1.8
n-Butane	C4H10	58.12	2,968	1.8
cis-Butene	C4H8	56.11	2,830	1.6
iso-Butene	C4H8	56.11	2,928	1.8
trans-Butene	C4H8	56.11	2,826	1.7
Carbon Dioxide	CO2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C3H6	42.08	2,185	2.4
Ethane	C2H6	30.07	1,595	3.0
Ethylene	C2H4	28.05	1,477	2.7
Hydrogen	H2	2.02	1,212 <sup>(*)</sup>	4.0
Hydrogen Sulfide	H2S	34.08	587	4.0
Methane	CH4	16.04	896	5.0
MethylAcetylene	C3H4	40.06	2,088	1.7
Nitrogen	N2	28.01	0	∞
Oxygen	O2	32.00	0	∞
Pentane+ (C5+)	C5H12	72.15	3,655	1.4
Propadiene	C3H4	40.06	2,066	2.16
Propane	C3H8	44.10	2,281	2.1
Propylene	C3H6	42.08	2,150	2.4
Water	H2O	18.02	0	∞

*\* The theoretical net heating value for hydrogen is 274 BTU/scf, but for the purposes of the flare requirement, a net heating value of 1,212 BTU/scf shall be used.*

**Table 2 — Accuracy and Calibration Requirements**

<b><u>Parameter</u></b>	<b><u>Accuracy requirements</u></b>	<b><u>Calibration requirements</u></b>
Flare Vent Gas Flow Rate	<p>±20 percent of flow rate at velocities ranging from 0.1 to 1 feet per second.</p> <p>±5 percent of flow rate at velocities greater than 1 foot per second.</p>	<p>Performance evaluation biennially (every two years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale.</p> <p>Conduct monthly AVO fugitive emission monitoring on each connection point. Visual inspections and checks of system operation every 3 months, unless the system has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.</p>
Flow Rate for All Flows Other Than Flare Vent Gas	<p>± 5% over normal range of flow measured or 0.5 gal/min whichever greater for liquid flow.</p> <p>± 5% over normal range of flow measured 10 ft<sup>3</sup>/min, whichever greater for gas flow.</p> <p>± 5% over normal range measured for mass flow</p>	<p>Conduct a flow sensor calibration check at least biennially (every 2 years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the continuous parameter monitoring system (CPMS) has a redundant flow sensor.</p> <p>Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.</p>
Pressure	<p>±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column),</p>	<p>Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated.</p> <p>Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the</p>

	whichever is greater.	<p>maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Use an instrument recommended by the sensor's manufacturer for calibration checks.—</p> <p>Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation, and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.</p>
Net Heating Value by Calorimeter	±2 percent of span	<p>Calibration requirements should follow manufacturer's recommendations at a minimum.</p> <p>Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation.</p> <p>Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.</p>
Net Heating Value by Gas Chromatograph	As specified in Performance Specification 9 of 40 CFR part 60 Appendix B.	Follow the procedure in Performance Specification 9 of 40 CFR Part 60 Appendix B, except that a single daily mid-level calibration check can be used, a triplicate mid-level check weekly, and the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).
Hydrogen Analyzer	± 2% over concentration measured or 0.1 vol% whichever is greater	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Specify the sampling location at least 2 equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration occurs.

Date: March 23, 2022

## Special Conditions

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1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates" (MAERT), and those sources are limited to the emission limits and other conditions specified in that table. Also, this permit authorizes emissions from planned maintenance, startup and shutdown activities.

## Emission Standards and Operational Specifications

### *Fuel specifications*

2. Unless specified in the special conditions of this permit, fired sources shall be fueled with pipeline quality natural gas containing no more than 5 grains of sulfur per dry standard cubic foot (scf) and/or plant produced high hydrogen fuel gas (process gas).

### *Pyrolysis Furnaces*

3. The furnaces, emission point numbers (EPNs) H-1101 through H-1106, shall be designed and operated according to the following emissions standards and operating specifications: **(11/20)**
  - A. The permit holder shall continuously monitor and record the average hourly fuel consumption of the furnaces with individual flow measurements being taken no less frequently than once every 15 minutes. The fuel flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. The flow meters shall be accurate to  $\pm 5.0$  percent of the unit's maximum flow.

Each month, the permit holder shall reduce hourly average records of the total fuel flow rate for each fuel utilized by the furnaces to a monthly average.
  - B. The natural gas and process gas shall be sampled monthly to determine high heat value and, if applicable, molecular weight and carbon content. Records of the natural gas and process gas high heat value shall be maintained for a minimum period of five years. Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel, or shall allow air pollution control agency representatives to obtain a sample for analysis
  - C. Pipeline quality natural gas shall be exempt from requirement B above provided the permit holder receives and maintains quarterly records of the vendor's analysis and the data is of sufficient quality to yield further analysis as required above.
  - D. The furnace stack exhaust temperature shall be less than or equal to 350 °F on a 12-month rolling average basis. The permit holder shall continuously monitor and record the furnace gas exhaust temperature hourly. On a monthly basis, the one hour average temperatures shall be reduced to monthly and 12-month rolling average temperatures to demonstrate compliance with the emission limit of this condition. This stack temperature is for normal operations and does not include commissioning, authorized planned maintenance, startup, and shutdown.
  - E. The permit holder shall maintain a minimum overall efficiency of 1.33 short tons of CO<sub>2e</sub> per short ton of ethylene produced on a 12-month rolling average basis, calculated monthly, for

the furnace block (EPNs H-1101 through H-1106), including periods of start-up, shutdown, and maintenance. **(11/20)**

4. After the first full calendar month of ethylene production, the permit holder shall compare that month's ethylene production rate and furnace firing rate to the limits in Special Condition No. 3.E and the MAERT. Within 45 days after collecting the data, the permit holder shall submit a report to the region identifying whether the data causes any concerns regarding the permit holder's ability to comply with the applicable limitations.
5. The monitors and analyzers identified in Special Condition 3 shall operate as required at least 95% of the time when the furnaces are operational, averaged over a rolling 12 month period. The monitors and analyzers shall be installed, operated and calibrated according to the manufacturer's specifications.
6. The permit holder shall check calibration and calibrate as needed, and perform preventative maintenance checks of the fuel gas flow meters and document at the minimum frequency established per the manufacturer's recommendation.

#### ***Decoke Cyclones***

7. Decoking for all six furnaces shall only be performed as needed and shall be limited to 1,764 hours per rolling 12-month period. **(11/20)**

Decoking operations shall follow best practices so as to limit the amount of decoking emissions vented to the atmosphere.

#### ***Ground Flare***

8. RESERVED **(03/22)**
9. The multi-point ground flare (MPGF) (EPN: XF-4601) shall be designed and operated in accordance with the following requirements:
  - A. The flare system shall be designed such that it meets one of the following:
    - (1) The low-pressure stages shall meet 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions. Flare testing per 40 CFR § 60.18(f) may be requested by the appropriate regional office to demonstrate compliance with these requirements.
    - (2) The high-pressure stages shall meet the design, operating, monitoring, recordkeeping, and reporting requirements of AMOC No. 113 approved March 22, 2022 (Attachment A). **(03/22)**

#### ***Thermal Oxidizer***

10. The thermal oxidizers shall maintain a firebox exit temperature greater than or equal to 1400°F for EPN X-3800 and 1650°F for EPN BACK-UP CD and an exhaust oxygen concentration not less than 3 percent on a six-minute average while waste gas is being fed into the oxidizers prior to initial stack testing. After the initial stack test has been completed, the six minutes average temperature shall be equal to or greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Permit No. 122353 and PSDTX1426. **(11/20)**



- A. Each thermal oxidizer firebox exit temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of  $\pm 0.75$  percent of the temperature being measured expressed in degrees Celsius or  $\pm 2.5^{\circ}\text{C}$ .
- B. The oxygen analyzer used to satisfy Special Condition No. 10 shall continuously monitor and record oxygen concentration when waste gas is directed to the oxidizer. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.

The oxygen analyzer shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified Performance Specification No. 3, 40 CFR Part 60, Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

The analyzer shall be quality-assured at least semiannually using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2, with the following exception: a relative accuracy test audit is not required once every four quarters (i.e., two successive semiannual CGAs may be conducted). An equivalent quality-assurance method approved by the TCEQ may also be used. Successive semiannual audits shall occur no closer than four months. Necessary corrective action shall be taken for all CGA exceedances of  $\pm 15$  percent accuracy and any continuous emissions monitoring system downtime in excess of 5 percent of the incinerator operating time. These occurrences and corrective actions shall be reported to the appropriate TCEQ Regional Director on a quarterly basis. Quarterly reports to the TCEQ Regional Director are only necessary when a CGA exceedance of  $\pm 15$  percent accuracy occurs or when any continuous emissions monitoring system downtime in excess of 5 percent of the incinerator operating time occurs. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

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

11. The capture systems for the ground flare (EPN XF-4601) and the thermal oxidizers (EPNs X-3800 and BACK-UP CD) shall be subject to the following requirements: **(11/20)**

- A. 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
- B. 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.
- C. The control device shall not have a 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.

- D. 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.

### ***Emergency Generators***

- 12. The emergency generator engines (EPNs EMERGEN1 and EMERGEN2) shall be designed and operated in accordance with the following requirements: **(11/20)**
  - A. The generators shall be fired with ultra-low sulfur diesel containing 15 ppmw sulfur or less.
  - B. The diesel engines shall not exceed 100 hours of non-emergency operation per year on a rolling 12-month basis. The diesel engine must be equipped with a non-resettable runtime meter.
  - C. Upon request by the Executive Director of the Texas Commission on Environmental Quality (TCEQ) or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuel or shall allow air pollution control agency representatives to obtain a sample for analysis.

### ***Cooling Tower***

- 13. The methane (CH<sub>4</sub>) associated with cooling tower (EPN X-3401) water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly CH<sub>4</sub> emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the CH<sub>4</sub> emissions between CH<sub>4</sub> monitoring periods over the rolling 12 month period. The emissions between CH<sub>4</sub> monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the 2 CH<sub>4</sub> monitored results.

### ***Fugitives***

- 14. Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment in service greater than 10% CH<sub>4</sub>:
  - A. The requirements of paragraphs F and G shall not apply 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 or by one of the methods described below to be made readily available upon request.

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

    - (1) piping and instrumentation diagram (PID);
    - (2) a written or electronic database or electronic file;
    - (3) color coding;
    - (4) a form of weatherproof identification; or
    - (5) designation of exempted process unit boundaries.

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

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

- (1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or
  - (2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once within the 72 hour period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.
- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. If a relief valve is equipped with rupture disc, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed at least quarterly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping

requirements specified in this paragraph. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated with CH<sub>4</sub>.

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

- G. Except as may be provided for in the special conditions of this permit, all pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of CH<sub>4</sub> 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 CH<sub>4</sub> in excess of 500 parts per million by volume (ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor, and agitator seals found to be emitting CH<sub>4</sub> in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days and a record of the attempt shall be maintained.
- I. A leaking component shall be repaired as soon as practicable, but no later than 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), or 500 pounds, whichever is greater, the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination. **(04/25)**
- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.

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- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352 - 115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with Special Condition 14 shall occur within 180 days of initial startup. **(04/25)**

**Steam Boiler**

- 15. The Steam Boiler (EPN STMBLR) shall be designed and operated in accordance with the following requirements: **(04/25)**
  - A. The permit holder shall continuously monitor and record the average hourly fuel consumption of the boiler with flow measurements being taken no less frequently than once every 15 minutes. The fuel flow meter shall be installed, calibrated, maintained, and operated according to the manufacturer's instructions. The flow meters shall be accurate to  $\pm 5.0$  percent of the unit's maximum flow.

Each month, the permit holder shall reduce hourly average records of the total fuel flow rate for the natural gas utilized by the boiler to a monthly average or monthly total, whichever is most appropriate.
  - B. Quarterly records of the natural gas vendor's analysis of the high heating value and molecular weight will be maintained.
  - C. The permit holder shall calculate the total CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O emissions on a 12-month rolling basis. The permit holder shall determine compliance with the CH<sub>4</sub> and N<sub>2</sub>O emissions limits contained in this permit using the default CH<sub>4</sub> and N<sub>2</sub>O emissions factors contained in Table C-2 of 40 CFR Part 98 and the heat input (HHV) from records maintained with 15A and 15B, converted to short tons. The permit holder shall determine compliance with the CO<sub>2</sub> emissions limits contained in this permit using the default CO<sub>2</sub> emissions factors contained in Table C-1 of 40 CFR Part 98 and the heat input (HHV) from records maintained with 15B, converted to short tons
  - D. The permit holder shall calculate the total CO<sub>2e</sub> emissions on a 12-month rolling basis based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1.

**Data Quality**

- 16. The monitors and analyzers referenced in Special Condition Nos. 3 through 15 shall operate as required by this section at least 95% of the time when the streams that they are monitoring are operational, averaged over a rolling 12 month period. **(04/25)**

**Planned Maintenance, Startup and Shutdown**

- 17. The permit holder shall depressure sections of pipe and equipment in CH<sub>4</sub> service to the ground flare (EPN XF-4601), or other parts of the process prior to performing MSS activities. GHG emissions are not permitted to emit from venting pipe and equipment to the atmosphere.
- 18. Records of MSS activities shall be maintained to include the date, time, and estimated volume of each MSS event.
- 19. Permit holder must record the time, date, and higher heating value in MMBtu of each MSS event that is vented to the ground flare. The records must include hourly CH<sub>4</sub> emission levels as measured by the inline gas analyzer (Gas chromatograph or equivalent with volumetric stack gas

flowrate) and the calculations based on the actual heat input for the carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and CH<sub>4</sub> emissions during each MSS event. These records must be kept for five years following the date of each event.

## Calculations

20. Calculations of emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O to determine compliance with the MAERT carbon dioxide equivalent (CO<sub>2e</sub>) emission limitation shall be calculated in the following manner by the end of the current month for the previous rolling 12-months.
  - A. Any referenced methodology of 40 CFR Part 98 is modified as follows:
    - (1) References to annual measurements are to be construed as a rolling 12-month total if the variable is measured on a monthly or more frequent basis.
    - (2) References to annual measurements that are not measured at a frequency greater than one month (e.g. quarterly or semiannual) are to be construed as the average of the most recent measurements based on a year (e.g. average of 4 quarterly or 2 semiannual). This is a rolling basis.
  - B. GHG emissions from the pyrolysis furnaces (EPNs H-1101 through H-1106), the ground flare (EPN XF-4601), the thermal oxidizers (EPNs X-3800 and BACK-UP CD) and the emergency generators (EPNs EMERGEN1 and EMERGEN2) shall be calculated according to the following calculation methodologies and the process data listed in part C below: **(11/20)**
    - (1) For calculating CO<sub>2</sub> emissions use the methodology in equation C-5 in 40 CFR Part 98 Subpart C, converted to short tons.
    - (2) For calculating emissions of CH<sub>4</sub> and N<sub>2</sub>O, use the default CH<sub>4</sub> and N<sub>2</sub>O emission factors contained in Table C-2 and equation C-8, converted to short tons.
  - C. Use the following data in conjunction with the methodology referenced above to calculate GHG emissions:
    - (1) For the pyrolysis furnaces, use the rolling 12-month process gas and natural gas fuel flow rates.
    - (2) For the ground flare, use the rolling 12-month average waste gas flow rate to the flare.
    - (3) For the thermal oxidizer, use the rolling 12-month average waste gas flow rate to the thermal oxidizer.
    - (4) For the emergency generator, use the rolling 12-month average run-time and corresponding fuel flow rate.
  - D. Cooling Tower (EPN X-3401)
    - (1) For calculating CH<sub>4</sub> emissions, assume all carbon monitored in accordance with Special Condition No. 13 is CH<sub>4</sub>.
21. The permit holder shall calculate the CO<sub>2e</sub> emissions on a 12-month rolling basis, using the procedures and Global Warming Potentials (GWP) contained in, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (78 FR 71904).

**Recordkeeping**

22. Permit holders must keep records sufficient to demonstrate compliance with 30 Texas Administrative Code § 116.164. Records shall be sufficient to demonstrate the amount of emissions of GHGs from the sources as a result of construction, a physical change or change in method of operation does not require authorization under 30 TAC § 116.164(a).
23. The following records must be kept at the plant for the life of the permit. All records required in this permit must be made available at the request of personnel from the TCEQ, EPA, or any air pollution control agency with jurisdiction:
  - A. A copy of this permit, and
  - B. The permit application dated July 31, 2014 and subsequent representations submitted to the TCEQ.
24. The following information must be maintained by the holder of this permit in a form suitable for inspection for a period of five years after collection and must be made available upon request to representatives of the TCEQ, EPA, or any local air pollution control program having jurisdiction:
  - A. Pyrolysis furnaces
    - (1) Monthly and 12-month rolling fuel flow data according to Special Condition No. 3.A,
    - (2) Natural gas and process gas records according to Special Condition No. 3.B.
    - (3) Exhaust stack temperature according to Special Condition No. 3.D.
    - (4) Efficiency according to Special Condition No. 3.E.
  - B. Decoke Cyclones
    - (1) The records of time and date of decoking to demonstrate compliance with Special Condition No. 7.
  - C. Ground Flare
    - (1) Records of pilot flame outages according to Special Condition No. 9.
    - (2) Records of waste gas flow rate and heating value according to Special Condition No. 9.
  - D. Thermal Oxidizer
    - (1) Records of thermal oxidizer firebox temperature according to Special Condition No. 10.A.
    - (2) Records of thermal oxidizer exhaust oxygen concentration according to Special Condition No. 10.B.
  - E. Emergency Generator
    - (1) Records of engine run-time according to Special Condition No. 12.B.
  - F. Cooling Tower
    - (1) Records of CH<sub>4</sub> content of cooling water according to Special Condition No. 13.
  - G. Fugitives
    - (1) Records required by Special Condition No. 14.
  - H. Steam Boiler **(04/25)**

Special Conditions

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- (1) Monthly and 12-month rolling fuel flow data according to Special Condition No. 15.A,
  - (2) Natural gas records according to Special Condition No. 15.B.
- I. For records of MSS:
  - (1) Date, time and CH<sub>4</sub> volume of the event; and
  - (2) Emissions of CO<sub>2e</sub> from the event.

Date: April 17, 2025



**Permit Number GHGPSDTX114M1**

Attachment A

Alternative Method of Control (AMOC) No. 113

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



**Alternative Method of Control (AMOC) Plan  
Bayport Polymers, LLC (Baystar)  
AMOC No.: AMOC-113  
Ethane Cracker Unit  
Multi-Point Ground Flare (MPGF) System  
Port Arthur, Jefferson County, Regulated Entity Number: RN109845768**

- A. This AMOC Plan Authorization shall apply at the Bayport Polymers, LLC (Baystar), Ethane Cracker Unit located in **Port Arthur, Jefferson** County. This site is identified by Regulated Entity Number RN109845768. Under Title 30 Texas Administrative Code (TAC) Section 115.910 (§115.910) this plan authorizes a multi-point ground flare (MPGF) system identified as EPN XF-4601. This plan is specific to the high-pressure flare operations of the MPGF system which will be used during permitted routine process operations, planned maintenance, start-ups, and shutdowns (MSS), and non-permitted unplanned emergency and upset situations.
- B. A copy of the AMOC application and the AMOC Plan provisions must be kept on-site or at a centralized location and made available at the request of personnel from the TCEQ or any pollution control agency with jurisdiction. The AMOC application is defined by the application received 5/15/2018 and subsequent supporting documents dated through March 15, 2022.
- C. This authorization is granted under § 115.910 for emissions sources regulated by 30 TAC Chapter 115:

Subchapter B: General Volatile Organic Compound Sources

Division 2: Vent Gas Control

Division 3: Water Separation

Division 4: Industrial Wastewater

Subchapter C: Volatile Organic Compound Transfer Operations

Division 1: Loading and Unloading of Volatile Organic Compounds

Subchapter D: Petroleum Refining, Natural Gas Processing, and Petrochemical Processes

Division 3: Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, And Petrochemical Processes in Ozone Nonattainment Areas

Subchapter F: Miscellaneous Industrial Sources

Division 3: Degassing of Storage Tanks, Transport Vessels and Marine Vessels

This AMOC shall apply in lieu of the requirements §§ 115.122(a)(1)-(2), as applicable. Compliance with this AMOC is independent of Baystar's obligation to comply with all other applicable requirements of 30 TAC Chapter 115, TCEQ permits, and applicable state and federal law. The monitoring and testing requirements of 30 TAC Chapter 115 shall continue to apply.

Compliance with the requirements of this plan does not assure compliance with requirements of an applicable New Source Performance Standard, applicable National Emission Standard for Hazardous

Air Pollutants, or an Alternative Means of Emission Limitation (AMEL) and does not constitute approval of alternative standards for these regulations.

If an AMEL is granted by the U.S. Environmental Protection Agency (EPA) or federal authorization is provided in regulations, the company shall incorporate AMEL conditions into this AMOC by revision within 90 days if any changes are needed for consistency.

- D. In accordance with § 115.913(c), all representations submitted for this plan, as well as the provisions listed here, become conditions upon which this AMOC Plan is issued. It is unlawful to vary from the emission limits, control requirements, monitoring, testing, reporting or recordkeeping requirements of this Plan.
- E. The flare system EPN XF-4601 is authorized under Permits No. **122353, PSDTX1426M1, GHGPSDTX114M1** and subject to this AMOC plan. The flare system uses Zeeco MJ-4 burners controlling MSS and upset activities. When the High Pressure (HP) Vent Header sends waste gas to the MPGF, the burners will exceed the tip velocity portions of §60.18, §63.11, and 30 TAC Chapter 115. In these instances, the Zeeco MJ-4 burners and stages will meet the requirements in paragraph F.

The MPGF system will be 13 stages of burners for a total of 264 burners. For all stages, the distance between any two burners in series on any given stage must be no more than 6 feet when measured from the center of one burner to the next burner. Operations of the MPGF burners will achieve a reduction in emissions that will meet the reduction in emissions being controlled by a pressure assist flare during low- and high-pressure operations complying with the requirements of §§ 115.122(a)(2) or 40 CFR 60.18(b), with a VOC destruction effectiveness of 99%.

- F. When the burners exceed the tip velocity requirements of §60.18, §63.11, and 30 TAC Chapter 115, the burners must be operated such that the following are met:
1. **Operating Requirements:** The net heating value of the flare vent gas combustion zone ( $NHV_{cz}$ ) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf).

The owner or operator must demonstrate compliance with the  $NHV_{cz}$  metric by continuously complying with a 15-minute block average when regulated material is routed to the flare for at least 15-minutes. The owner or operator shall monitor and calculate  $NHV_{cz}$  as specified. The operator must calculate and monitor for the  $NHV_{cz}$  according to the following:

a. **Calculation of  $NHV_{cz}$**

- i. If any owner or operator elects to use a monitoring system capable of continuously measuring, calculating, and recording the individual component concentrations present in the flare gas, the net heating value shall be determined using the following equation:  
[§63.670(l)(1)]

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, British thermal units per standard cubic foot (Btu/scf). *Flare vent gas* means all gas found just prior to the MPGFs. This gas includes all flare waste gas (*i.e.*, gas from facility operations that is directed to a flare for the purpose of disposing of the gas), flare sweep gas, flare purge gas and flare supplemental gas, but does not include pilot gas.

$i$  = Individual component in flare vent gas.

$n$  = Number of components in flare vent gas.

$x_i$  = Concentration of component  $i$  in flare vent gas, volume percent (vol %).

$NHV_i$  = Net heating value of component  $i$  determined as the heat of combustion where the net enthalpy per mole of offgas is based on combustion at 25 degrees

Celsius (°C) and 1 atmosphere (or constant pressure) with water in the gaseous state from values published in the literature, and then the values converted to a volumetric basis using 20 °C for “standard temperature.” Table 1 summarizes component properties including net heating values.

- ii. If the owner or operator uses a continuous net heating value monitor, the owner or operator may, at their discretion, install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the hydrogen concentration in the flare vent gas. The owner or operator shall use the following equation to determine  $NHV_{vg}$  for each sample measured via the net heating value monitoring system.

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

Where:

$NHV_{vg}$  = Net heating value of flare vent gas, BTU/scf.

$NHV_{measured}$  = Net heating value of flare vent gas stream as measured by the continuous net heating value monitoring system, BTU/scf.

$X_{H2}$  = Concentration of hydrogen in flare vent gas at the time the sample was input into the net heating value monitoring system, volume fraction.

938 = Net correction for the measured heating value of hydrogen 1,212-274 BTU/scf.

- iii. *Direct Calculation Method:* For non-assisted flare burners,  $NHV_{vg} = NHV_{cz}$ .

1. If the results from the first sample collected during an event (for periodic flare 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 a.m. and the analysis is completed at 12:38 a.m., the results are available at 12:38 a.m. and these results would be used to determine compliance during the 15-minute block period from 12:30 a.m. to 12:45 a.m.

b. Calculation of  $V_{tip}$  is not applicable to this MPGF.

c. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring flare vent gas volumetric flow rate ( $Q_{vg}$ ).

- i. The flow rate monitoring system must be able to correct for the temperature and pressure of the system and output parameters in standard conditions (i.e., a temperature of 20 degrees C (68 ° F) and a pressure of 1 atmosphere).

- ii. Mass flow monitors may be used for determining volumetric flow rate of flare vent gas provided the molecular weight of the flare vent gas is determined using compositional analysis so that the mass flow rate can be converted to volumetric flow at standard conditions using the following equation:

Where:

$Q_{vol}$  = volumetric flow rate in scf per second (scf/s).

$Q_{mass}$  = mass flow rate in pounds per second (lb/s)

385.3 = conversion factor scf per pound-mole

$MW_i$  = molecular weight of the gas at the flow monitoring location, pounds per pound-mole

- e. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring (i.e., at least once every 15-minutes) temperature consistent with the applicable requirements in 30 TAC Chapter 115 for purposes of correcting flow rate to standard conditions. The monitor must meet the accuracy and calibration specifications annually.

For each measurement produced by monitoring systems, the operator shall determine the 15-minute block average as the arithmetic average of all measurements made by the monitoring system within the 15-minute period.

- f. The operator must follow the calibration and maintenance procedures according to Table 2.

Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

## 2. Pilot Flame Requirements:

- a. The MPGF systems shall be operated with a flame present at all times when regulated material is routed to that stage of burners.
- b. Each stage of MPGF burners must have at least two pilots with at least one continuously lit pilot flame capable of igniting all regulated material that is routed to that stage of burners.
- c. Each pilot flame must be continuously monitored by a thermocouple or any other equivalent device (such as the video camera required for visible emission monitoring as outlined in 3 below), used to detect the presence of a flame.
- d. The time, date and duration of any complete loss of pilot flame on any stage of burners must be recorded.
- e. At all times, the owner or operator must operate and maintain monitoring equipment, in a manner consistent with good practices and manufacturer's specifications. Determination of whether such maintenance procedures are being used will be based on information available to the TCEQ which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, and review of operation and maintenance records.
- f. Deviations:

- i. Each 15-minute block during which there is at least one minute where no pilot flame is present when regulated material is routed to the flare is considered a deviation.
  - ii. Deviations in different 15-minute blocks from the same event are considered separate deviations.
- 3. **Visible Emission Requirements:** When the flare is receiving regulated material, the flare system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
  - a. A video camera that is capable of continuously recording (*i.e.*, at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement.
  - b. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.

Video camera downtime associated with maintenance periods and camera adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Maintenance and adjustment procedures conducted when the flare is not receiving regulated material are excluded from the video camera downtime calculation.
  - c. The flare system shall comply with the requirements of the following:
    - i. The owner or operator shall conduct an initial visible emissions demonstration using an observation period of 2 hours using Method 22 at 40 CFR part 60, appendix A-7. The initial visible emissions demonstration should be conducted the first-time regulated materials are routed to the flare.
    - ii. Subsequent visible emissions observations must be conducted using either the methods in paragraphs (iii) or (iv) below. The owner or operator must record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours.
    - iii. At least once per day for each day regulated material is routed to the flare, conduct visible emissions observations using an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A-7. If at any time the owner or operator sees visible emissions while regulated material is routed to the flare, even if the minimum required daily visible emission monitoring has already been performed, the owner or operator shall immediately begin an observation period of 5 minutes using Method 22 at 40 CFR 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 CFR part 60, appendix A-7 must be extended to 2 hours or until 5-minutes of visible emissions are observed. Daily 5-minute Method 22 observations are not required to be conducted for days the flare does not receive any regulated material.
    - iv. 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 and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

4. **Pressure Monitor Requirements:**

- a. The operator of the flare system shall install and operate pressure monitor(s) on the main flare header, and
  - b. a valve position indicator monitoring systems for each staging valve to ensure that the flare system operates within the range of tested conditions or within the range of the manufacturer's specifications.
  - c. The pressure monitor shall meet the requirements in Table 2.
  - d. Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.
5. **Recordkeeping Requirements:** All data must be recorded and maintained for a minimum of five years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is longer. Records must be maintained onsite and made available upon request by authorized representatives of the executive director, U.S. EPA, and any local air pollution control agency with jurisdiction.

6. **Reporting Requirements**

- a. The information specified in (b) and (c) below should be reported in the timeline specified by the applicable rules for which the flare system will control emissions.
- b. Owners or operators should include the final operating requirements for each flare in their initial Notification of Compliance (NOC) status report (including but not limited to the items listed in subparagraph F.6.c.
- c. The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports.
- d. All MPGF shall include the following in their NOC, reports, and records:
  - i. Each 15-minute block during which there was at least one minute when regulated material was routed to the MPGFs and a complete loss of pilot flame on any stage or any individual burner(s) occurred.
  - ii. Periods of visible emissions events (including time and date stamp) that exceed more than 5 minutes in any 2-hour consecutive period.
  - iii. Each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*, *NHVCz*) is not met for the flare system when regulated material is being combusted in the flare. Indicate the date and time for each period, the *NHVCz* operating parameter for the period, the type of monitoring system used to determine compliance with the operating parameters (*e.g.*, gas chromatograph or calorimeter), and the flare stages which were in use.
  - iv. Periods when the pressure monitor(s) on the main flare header show the flare burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the stage(s) and number of flare burners affected and the range of tested conditions or manufacturer's specifications.

- v. Periods when the staging valve position indicator monitoring system indicates a stage of the flare system should not be in operation but is; or when a stage of the MPGF should be in operation but is not. Indicate the date and time for each period, whether the stage was supposed to be open but was closed or vice versa and the stage(s) and number of flare burners affected.

**Table 1 — Individual Component Properties**

<b><u>Component</u></b>	<b><u>Molecular Formula</u></b>	<b><u>MWi (lb/ lb mol)</u></b>	<b><u>NHVi (Btu/scf)</u></b>	<b><u>LFLi (volume %)</u></b>
Acetylene	C2H2	26.04	1,404	2.5
Benzene	C6H6	78.11	3,591	1.3
1,2- Butadiene	C4H6	54.09	2,794	2.0
1,3- Butadiene	C4H6	54.09	2,690	2.0
iso-Butane	C4H10	58.12	2,957	1.8
n-Butane	C4H10	58.12	2,968	1.8
cis-Butene	C4H8	56.11	2,830	1.6
iso-Butene	C4H8	56.11	2,928	1.8
trans-Butene	C4H8	56.11	2,826	1.7
Carbon Dioxide	CO2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C3H6	42.08	2,185	2.4
Ethane	C2H6	30.07	1,595	3.0
Ethylene	C2H4	28.05	1,477	2.7
Hydrogen	H2	2.02	1,212 <sup>(*)</sup>	4.0
Hydrogen Sulfide	H2S	34.08	587	4.0
Methane	CH4	16.04	896	5.0
MethylAcetylene	C3H4	40.06	2,088	1.7
Nitrogen	N2	28.01	0	∞
Oxygen	O2	32.00	0	∞
Pentane+ (C5+)	C5H12	72.15	3,655	1.4
Propadiene	C3H4	40.06	2,066	2.16
Propane	C3H8	44.10	2,281	2.1
Propylene	C3H6	42.08	2,150	2.4
Water	H2O	18.02	0	∞

*\* The theoretical net heating value for hydrogen is 274 BTU/scf, but for the purposes of the flare requirement, a net heating value of 1,212 BTU/scf shall be used.*



**Table 2 — Accuracy and Calibration Requirements**

<b><u>Parameter</u></b>	<b><u>Accuracy requirements</u></b>	<b><u>Calibration requirements</u></b>
Flare Vent Gas Flow Rate	<p>±20 percent of flow rate at velocities ranging from 0.1 to 1 feet per second.</p> <p>±5 percent of flow rate at velocities greater than 1 foot per second.</p>	<p>Performance evaluation biennially (every two years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale.</p> <p>Conduct monthly AVO fugitive emission monitoring on each connection point. Visual inspections and checks of system operation every 3 months, unless the system has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.</p>
Flow Rate for All Flows Other Than Flare Vent Gas	<p>± 5% over normal range of flow measured or 0.5 gal/min whichever greater for liquid flow.</p> <p>± 5% over normal range of flow measured 10 ft<sup>3</sup>/min, whichever greater for gas flow.</p> <p>± 5% over normal range measured for mass flow</p>	<p>Conduct a flow sensor calibration check at least biennially (every 2 years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the continuous parameter monitoring system (CPMS) has a redundant flow sensor.</p> <p>Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.</p>
Pressure	<p>±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.</p>	<p>Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated.</p> <p>Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Use an instrument recommended by the sensor's manufacturer for calibration checks.—</p> <p>Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation, and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.</p>
Net Heating Value by Calorimeter	<p>±2 percent of span</p>	<p>Calibration requirements should follow manufacturer's recommendations at a minimum.</p> <p>Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation.</p> <p>Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point</p>

		of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.
Net Heating Value by Gas Chromatograph	As specified in Performance Specification 9 of 40 CFR part 60 Appendix B.	Follow the procedure in Performance Specification 9 of 40 CFR Part 60 Appendix B, except that a single daily mid-level calibration check can be used, a triplicate mid-level check weekly, and the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).
Hydrogen Analyzer	± 2% over concentration measured or 0.1 vol% whichever is greater	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Specify the sampling location at least 2 equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration occurs.

Date: March 23, 2022

## Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 122353 & PSDTX1426M1

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)
FURNCAP (6)	Pyrolysis Furnace Block Emission Cap  (H-1101 through H-1106)	NO <sub>x</sub>	24.14	105.78
		NO <sub>x</sub> (MSS) (8)	72.92	
		CO	90.35	395.76
		VOC	4.82	21.16
		SO <sub>2</sub>	1.68	6.00
		SO <sub>2</sub> (MSS) (8)	1.68	
		PM	6.08	26.46
		PM <sub>10</sub>	6.08	26.46
		PM <sub>2.5</sub>	6.08	26.46
		H <sub>2</sub> SO <sub>4</sub>	0.11	0.48
		NH <sub>3</sub>	10.99	48.12
H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106 (7)	Pyrolysis Furnaces  (H-1101 through H-1107)	NO <sub>x</sub>	6.04	--
		CO	15.06	--
		VOC	0.80	--
		SO <sub>2</sub>	0.23	--
		PM	1.01	--
		PM <sub>10</sub>	1.01	--
		PM <sub>2.5</sub>	1.01	--
		H <sub>2</sub> SO <sub>4</sub>	0.02	--
		NH <sub>3</sub>	1.83	--

Emission Sources - Maximum Allowable Emission Rates

HDECOKE1	Decoke Cyclone 1	CO	280.00	65.34
		PM	1.36	0.60
		PM <sub>10</sub>	1.36	0.60
		PM <sub>2.5</sub>	1.36	0.60
HDECOKE2	Decoke Cyclone 2	CO	280.00	65.34
		PM	1.36	0.60
		PM <sub>10</sub>	1.36	0.60
		PM <sub>2.5</sub>	1.36	0.60
XF-4601	Multi-Point Ground Flare - Normal	NO <sub>x</sub>	8.29	35.86
		CO	33.03	142.82
		VOC	13.86	59.93
		SO <sub>2</sub>	0.34	1.48
	Multi-Point Ground Flare - MSS	NO <sub>x</sub>	919.05	58.41
		CO	3,660.23	232.64
		VOC	2,077.69	98.16
		SO <sub>2</sub>	0.02	0.10
X-3800	Thermal Oxidizer	NO <sub>x</sub>	0.65	--
		CO	0.41	--
		VOC	0.65	--
		SO <sub>2</sub>	0.02	--
		PM	0.04	--
		PM <sub>10</sub>	0.04	--
		PM <sub>2.5</sub>	0.04	--
BACK-UP CD	Backup Thermal Oxidizer	NO <sub>x</sub>	0.65	--
		CO	0.41	--
		VOC	0.65	--
		SO <sub>2</sub>	0.02	--
		PM	0.04	--
		PM <sub>10</sub>	0.04	--

Emission Sources - Maximum Allowable Emission Rates

		PM <sub>2.5</sub>	0.04	--
X-3800 and BACK-UP CD	Total Annual Emissions for Thermal Oxidizer and Backup Thermal Oxidizer	NO <sub>x</sub>	--	3.40
		CO	--	2.14
		VOC	--	0.12
		SO <sub>2</sub>	--	0.11
		PM	--	0.20
		PM <sub>10</sub>	--	0.20
		PM <sub>2.5</sub>	--	0.20
X-3401	Cooling Tower	VOC	6.30	27.59
		PM	0.92	4.03
		PM <sub>10</sub>	0.71	3.11
		PM <sub>2.5</sub>	0.01	0.01
SCFUG (5)	Equipment Leak Fugitives	VOC	3.92	17.17
		NH <sub>3</sub>	0.18	0.80
BLRFUG (5)	Steam Boiler Fugitives	VOC	0.01	0.06
		NH <sub>3</sub>	0.01	0.04
EMERGEN1	Emergency Generator 1	NO <sub>x</sub>	0.74	0.04
		CO	3.86	0.19
		VOC	0.28	0.01
		SO <sub>2</sub>	0.01	<0.01
		PM	0.03	<0.01
		PM <sub>10</sub>	0.03	<0.01
		PM <sub>2.5</sub>	0.03	<0.01
EMERGEN2	Emergency Generator 2	NO <sub>x</sub>	0.74	0.04
		CO	3.86	0.19
		VOC	0.28	0.01
		SO <sub>2</sub>	0.01	<0.01
		PM	0.03	<0.01
		PM <sub>10</sub>	0.03	<0.01

Emission Sources - Maximum Allowable Emission Rates

		PM <sub>2.5</sub>	0.03	<0.01
SCMSS	Planned MSS Activities	NO <sub>x</sub>	0.01	0.01
		CO	0.01	0.01
		VOC	42.18	4.78
		PM	0.02	<0.01
		PM <sub>10</sub>	0.01	<0.01
		PM <sub>2.5</sub>	0.01	<0.01
STMBLR	Steam Boiler	NO <sub>x</sub>	5.10	26.16(9)
		NO <sub>x</sub> (MSS)	30.60	
		CO	18.85	85.39(9)
		CO (MSS)	37.70	
		VOC	2.75	12.05
		SO <sub>2</sub>	7.50	32.85
		PM	3.80	16.64
		PM <sub>10</sub>	3.80	16.64
		PM <sub>2.5</sub>	3.80	16.64
		NH <sub>3</sub>	2.29	10.03

- (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  
NH<sub>3</sub> - ammonia  
H<sub>2</sub>SO<sub>4</sub> - sulfuric acid
- (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 EPN FURNCAP is a short-term and annual cap of emissions from all furnaces, EPNs H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (7) These are the short-term emission rates of each furnace, EPNs H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (8) These emission rates apply across all furnaces in the cap when any one furnace is in one of the planned maintenance, startup and shutdown scenarios defined in the Special Conditions.

Emission Sources - Maximum Allowable Emission Rates

(9) These emission rates represent the total annual ton per year (tpy) for MSS and Routine combined.

Date: April 17, 2025

## Emission Sources - Maximum Allowable Emission Rates

Permit Number GHGPSDTX114M1

This table lists the maximum allowable emission rates of greenhouse gas (GHG) emissions, as defined in Title 30 Texas Administrative Code § 101.1, for all sources of GHG air contaminants on the applicant's property that are authorized 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 authorized by this permit.

### Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates
			TPY (4)
FURNCAP (7)	Pyrolysis Furnace Block (H-1101 through H-1106)	CO <sub>2</sub> (5)	1,154,397
		CH <sub>4</sub> (5)	19.4
		N <sub>2</sub> O (5)	2.3
		CO <sub>2</sub> e (8)(9)	1,155,580
		CO <sub>2</sub> e (10)	1,155,560
SCFUG	Process Fugitive Emissions (6)	CO <sub>2</sub> (5)	3.5
		CH <sub>4</sub> (5)	60.0
		CO <sub>2</sub> e (8)(9)	1,503
		CO <sub>2</sub> e (10)	1,684
BLRFUG	Steam Boiler Fugitives (6)	CO <sub>2</sub> (5)	0.04
		CH <sub>4</sub> (5)	0.84
		CO <sub>2</sub> e (8)(9)	21
		CO <sub>2</sub> e (10)	24
XF-4601	Multi-Point Ground Flare	CO <sub>2</sub> (5)	60,117
		CH <sub>4</sub> (5)	130
		N <sub>2</sub> O (5)	0.76
		CO <sub>2</sub> e (8)(9)	63,496
		CO <sub>2</sub> e (10)	63,958



Emission Sources - Maximum Allowable Emission Rates

X-3800 and BACK-UP CD	Thermal Oxidizers	CO <sub>2</sub> (5)	11,399
		CH <sub>4</sub> (5)	0.15
		N <sub>2</sub> O (5)	0.03
		CO <sub>2e</sub> (8)(9)	11,412
		CO <sub>2e</sub> (10)	11,411
X-3401	Cooling Tower	CH <sub>4</sub> (5)	1.7
		CO <sub>2e</sub> (8)(9)	42
		CO <sub>2e</sub> (10)	48
EMERGEN1	Emergency Generator	CO <sub>2</sub> (5)	27.82
		CH <sub>4</sub> (5)	<0.01
		N <sub>2</sub> O (5)	<0.01
		CO <sub>2e</sub> (8)(9)	27.90
		CO <sub>2e</sub> (10)	28
EMERGEN2	Emergency Generator	CO <sub>2</sub> (5)	27.82
		CH <sub>4</sub> (5)	<0.01
		N <sub>2</sub> O (5)	<0.01
		CO <sub>2e</sub> (8)(9)	27.90
		CO <sub>2e</sub> (10)	28
HDECOKE1	Decoke Cyclone 1	CO <sub>2</sub> (5)	205.92
		CO <sub>2e</sub> (8)	205.92
HDECOKE2	Decoke Cyclone 2	CO <sub>2</sub> (5)	205.92
		CO <sub>2e</sub> (8)	205.92
STMBLR	Steam Boiler	CO <sub>2</sub> (5)	261,304
		CH <sub>4</sub> (5)	4.92
		N <sub>2</sub> O (5)	0.49
		CO <sub>2e</sub> (8)(9)	261,573.
		CO <sub>2e</sub> (10)	261,572

(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) CO<sub>2</sub> - carbon dioxide

N<sub>2</sub>O - nitrous oxide

CH<sub>4</sub> - methane

Emission Sources - Maximum Allowable Emission Rates

CO<sub>2e</sub> - carbon dioxide equivalents based on the following Global Warming Potentials (GWPs)  
The GWPs effective January 1, 2015 through December 31, 2024 (79 FR 73779, December 11, 2014) are the following:  
CO<sub>2</sub> (1), N<sub>2</sub>O (298), CH<sub>4</sub> (25).  
The GWPs effective January 1, 2025 and later (89 FR 31894, April 25, 2024) are the following:  
CO<sub>2</sub> (1), N<sub>2</sub>O (265), CH<sub>4</sub> (28).

- (4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. These rates include emissions from maintenance, startup, and shutdown.
- (5) Emission rate is given for informational purposes only and does not constitute enforceable limit.
- (6) Emission rate is an estimate and is enforceable through compliance with the special conditions.
- (7) The EPN FURNCAP is a cap of annual emissions from Furnaces H-1101, H-1102, H-1103, H-1104, H-1105, and H-1106.
- (8) Compliance with annual emission limits (tons per year) is demonstrated by compliance with emission limits given in permit 122353 and PSDTX1426M1.
- (9) CO<sub>2e</sub> calculated based on GWPs effective for January 1, 2015 through December 31, 2024, which are GWPs of 1 for CO<sub>2</sub>, 298 for N<sub>2</sub>O, 25 for CH<sub>4</sub>, and 22,800 for SF<sub>6</sub>.
- (10) CO<sub>2e</sub> calculated based on GWPs effective for January 1, 2025 and later, which are GWPs of 1 for CO<sub>2</sub>, 265 for N<sub>2</sub>O, 28 for CH<sub>4</sub>, and 23,500 for SF<sub>6</sub>.

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