

# FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO  
BASF TOTAL Petrochemicals LLC

AUTHORIZING THE OPERATION OF  
NAFTA Regional Olefins Complex  
C4 Olefins Complex  
Industrial Organic Chemicals

LOCATED AT  
Jefferson County, Texas  
Latitude 29° 57' 15" Longitude 93° 53' 14"  
Regulated Entity Number: RN100216977

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:   O2629   Issuance Date: \_\_\_\_\_

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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, Subparts A, F, G, H and DDDDD as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, §§ 113.100, 113.110, 113.120, 113.130 and 113.1130 respectively which incorporate 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. 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.
  - B. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).
  - C. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
    - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

- (ii) Sources with an effective stack height ( $h_e$ ) less than the standard effective stack height ( $H_e$ ), must reduce the allowable emission level by multiplying it by  $[h_e/H_e]^2$  as required in 30 TAC § 111.151(b)
  - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: "Storage of Volatile Organic Compounds," the permit holder shall comply with the requirements of 30 TAC § 115.112(a)(1).
- 5. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:
  - A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)
  - B. Title 40 CFR § 60.8 (relating to Performance Tests)
  - C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)
  - D. Title 40 CFR § 60.12 (relating to Circumvention)
  - E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)
  - F. Title 40 CFR § 60.14 (relating to Modification)
  - G. Title 40 CFR § 60.15 (relating to Reconstruction)
  - H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)
- 6. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 61, unless otherwise stated in the applicable subpart:
  - A. Title 40 CFR § 61.05 (relating to Prohibited Activities)
  - B. Title 40 CFR § 61.07 (relating to Application for Approval of Construction or Modification)
  - C. Title 40 CFR § 61.09 (relating to Notification of Start-up)
  - D. Title 40 CFR § 61.10 (relating to Source Reporting and Request Waiver)
  - E. Title 40 CFR § 61.12 (relating to Compliance with Standards and Maintenance Requirements)
  - F. Title 40 CFR § 61.13 (relating to Emissions Tests and Waiver of Emission Tests)
  - G. Title 40 CFR § 61.14 (relating to Monitoring Requirements)
  - H. Title 40 CFR § 61.15 (relating to Modification)
  - I. Title 40 CFR § 61.19 (relating to Circumvention)

7. For facilities where total annual benzene quantity from waste is greater than or equal to 10 megagrams per year and subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
  - A. Title 40 CFR § 61.342(c)(1)(i) - (iii) (relating to Standards: General)
  - B. Title 40 CFR § 61.342(e)(2)(i) - (ii) (relating to Standards: General)
  - C. Title 40 CFR § 61.342(g) (relating to Standards: General)
  - D. Title 40 CFR § 61.350(a) and (b) (relating to Standards: Delay of Repair)
  - E. 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)
  - F. Title 40 CFR § 61.355(k)(1) - (6), and (7)(i) - (iv) (relating to Test Methods, Procedures, and Compliance Provisions), for calculation procedures
  - G. Title 40 CFR § 61.356(a) (relating to Recordkeeping Requirements)
  - H. Title 40 CFR § 61.356(b), and (b)(1) (relating to Recordkeeping Requirements)
  - I. Title 40 CFR § 61.356(b)(4) (relating to Recordkeeping Requirements)
  - J. Title 40 CFR § 61.356(b)(5) (relating to Recordkeeping Requirements)
  - K. Title 40 CFR § 61.357(a), (d)(1), (d)(2) (d)(6) and (d)(8) (relating to Reporting Requirements)
  - L. Title 40 CFR § 61.357(d)(5) (relating to Reporting Requirements)
8. The permit holder shall comply with the applicable 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.
9. For the chemical manufacturing process specified in 40 CFR Part 63, Subpart F, the permit holder shall comply with 40 CFR § 63.103(a) (relating to General Compliance, Reporting, and Recordkeeping Provisions) (Title 30 TAC Chapter 113, Subchapter C, § 113.110 incorporated by reference).
10. For the chemical manufacturing facilities with a 40 CFR Part 63, Subpart G Group 2 wastewater stream, the permit holder shall comply with (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):
  - A. Title 40 CFR § 63.132(a), (a)(1), and (a)(1)(ii), (relating to Process Wastewater Provisions - General)
  - B. Title 40 CFR § 63.132(a), (a)(1), and (a)(1)(i) (relating to Process Wastewater Provisions - General)
  - C. Title 40 CFR § 63.146(b)(1) (relating to Process Wastewater Provisions - Reporting)

- D. Title 40 CFR § 63.147(b)(8) (relating to Process Wastewater Provisions - Recordkeeping)
11. For the transfer of Group 1 wastewater streams or residuals from Group 1 wastewater streams the permit holder shall comply with the following requirements as applicable:
- A. Title 40 CFR § 63.132(g) (relating to Process Wastewater Provisions - General)
  - B. Title 40 CFR § 63.152(b)(5) (relating to General Reporting and Continuous Records)
12. 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**

13. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached "CAM Summary" upon issuance of the permit. In addition, the permit holder shall comply with the following:
- A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).
  - B. The permit holder shall report, consistent with the averaging time identified in the "CAM Summary," deviations as defined by the deviation limit in the "CAM Summary." Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).
  - C. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "CAM Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).
  - D. The permit holder shall operate the monitoring, identified in the attached "CAM Summary," in accordance with the provisions of 40 CFR § 64.7.
  - E. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.

14. The permit holder shall comply with the periodic monitoring requirements as specified in the attached "Periodic Monitoring Summary" upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

#### **New Source Review Authorization Requirements**

15. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
  - A. Are incorporated by reference into this permit as applicable requirements
  - B. Shall be located with this operating permit
  - C. Are not eligible for a permit shield
16. The permit holder shall comply with the general requirements of 30 TAC Chapter 106, Subchapter A or the general requirements, if any, in effect at the time of the claim of any PBR.
17. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

#### **Compliance Requirements**

18. The permit holder shall certify compliance in accordance with 30 TAC § 122.146. The permit holder shall comply with 30 TAC § 122.146 using at a minimum, but not limited to, the continuous or intermittent compliance method data from monitoring,

recordkeeping, reporting, or testing required by the permit and any other credible evidence or information. The certification period may not exceed 12 months and the certification must be submitted within 30 days after the end of the period being certified.

19. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:
  - A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:
    - (i) For sources in the Beaumont-Port Arthur Nonattainment area, 30 TAC § 117.9000
  
20. Use of Emission Credits to comply with applicable requirements:
  - A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:
    - (i) Title 30 TAC Chapter 115
    - (ii) Title 30 TAC Chapter 117
    - (iii) Offsets for Title 30 TAC Chapter 116
  - B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:
    - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)(2)
    - (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)(2)
    - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122
    - (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)
  
21. Use of Discrete Emission Credits to comply with the applicable requirements:
  - A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
    - (i) Title 30 TAC Chapter 115

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

### **Risk Management Plan**

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

### **Protection of Stratospheric Ozone**

23. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
- A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.

### **Permit Location**

24. 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)**

25. 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**

**Applicable Requirements Summary**

**Unit Summary** ..... 12

**Applicable Requirements Summary** ..... 15

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
ALKFUG	Fugitive Emission Units	N/A	R5352-A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
ALKFUG	Fugitive Emission Units	N/A	60VV-A	40 CFR Part 60, Subpart VV	No changing attributes.
BDECVS	Fugitive Emission Units	N/A	63H-1	40 CFR Part 63, Subpart H	No changing attributes.
BDEFUG	Fugitive Emission Units	N/A	R5352-A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
BDEFUG	Fugitive Emission Units	N/A	63H-1	40 CFR Part 63, Subpart H	No changing attributes.
BLR	Emission Points/Stationary Vents/Process Vents	N/A	R1111-B	30 TAC Chapter 111, Visible Emissions	No changing attributes.
BLR	Boilers/Steam Generators/Steam Generating Units	N/A	63DDDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.
D-5237	Volatile Organic Compound Water Separators	N/A	R5131-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-5251	Volatile Organic Compound Water Separators	N/A	R5131-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-5293	Volatile Organic Compound Water Separators	N/A	R5131-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-5402	Volatile Organic Compound Water Separators	N/A	R5131-B	30 TAC Chapter 115, Water Separation	No changing attributes.
P-10	Loading/Unloading	N/A	R5211-A	30 TAC Chapter 115,	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	Operations			Loading and Unloading of VOC	
P-11	Loading/Unloading Operations	N/A	R5211-B	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
P-6	Emission Points/Stationary Vents/Process Vents	N/A	R5121-B	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
P-7	Emission Points/Stationary Vents/Process Vents	N/A	R5121-B	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
PRO-BDE	Chemical Manufacturing Process	N/A	63F-1	40 CFR Part 63, Subpart F	No changing attributes.
R-5281	Reactor	N/A	60RRR-A	40 CFR Part 60, Subpart RRR	No changing attributes.
R-5402A	Reactor	N/A	60RRR-C	40 CFR Part 60, Subpart RRR	No changing attributes.
R-5402B	Reactor	N/A	60RRR-C	40 CFR Part 60, Subpart RRR	No changing attributes.
T-5401	Distillation Operations	N/A	60NNN-A	40 CFR Part 60, Subpart NNN	No changing attributes.
TK-9804	Storage Tanks/Vessels	N/A	R5112-B	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-9811	Storage Tanks/Vessels	N/A	R5112-B	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-9811	Storage Tanks/Vessels	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.

**Unit Summary**

<b>Unit/Group/ Process ID No.</b>	<b>Unit Type</b>	<b>Group/Inclusive Units</b>	<b>SOP Index No.</b>	<b>Regulation</b>	<b>Requirement Driver</b>
X-9817A	Flares	N/A	R1111-A	30 TAC Chapter 111, Visible Emissions	No changing attributes.
X-9817A	Flares	N/A	63A-1	40 CFR Part 63, Subpart A	No changing attributes.
X-9817B	Flares	N/A	R1111-A	30 TAC Chapter 111, Visible Emissions	No changing attributes.
X-9817B	Flares	N/A	63A-1	40 CFR Part 63, Subpart A	No changing attributes.
X-9835	Boilers/Steam Generators/Steam Generating Units	N/A	60Db-A	40 CFR Part 60, Subpart Db	No changing attributes.
X-9835	Boilers/Steam Generators/Steam Generating Units	N/A	36DDDDD	40 CFR Part 63, Subpart DDDDD	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)
ALKFUG	EU	R5352-A	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
ALKFUG	EU	R5352-A	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
ALKFUG	EU	R5352-A	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

**Applicable Requirements Summary**

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

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
				115, Pet. Refinery & Petrochemicals	§ 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8)	connectors shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	
ALKFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5)	None
ALKFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B)	None

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8)	million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.		[G]§ 115.356(3)(C) § 115.356(5)	
ALKFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5)	None
ALKFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8)	No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-2(b)(1) § 60.482-1(a)	If an instrument reading of 10,000 ppm	§ 60.482-1(f)(1) § 60.482-1(f)(2)	§ 60.482-1(g) [G]§ 60.486(a)	§ 60.487(a) [G]§ 60.487(b)

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.482-1(b) § 60.482-1(g) § 60.482-2(a)(2) [G]§ 60.482-2(b)(2) § 60.482-2(c)(1) [G]§ 60.482-2(c)(2) § 60.482-2(d) [G]§ 60.482-2(d)(1) § 60.482-2(d)(2) § 60.482-2(d)(3) [G]§ 60.482-2(d)(4) [G]§ 60.482-2(d)(5) [G]§ 60.482-2(d)(6) [G]§ 60.482-2(e) § 60.482-2(f) [G]§ 60.482-2(g) § 60.482-2(h) § 60.482-9(a) § 60.482-9(b) [G]§ 60.482-9(d) § 60.482-9(f) § 60.486(k)	or greater is measured for pumps in light liquid service, a leak is detected.	[G]§ 60.482-1(f)(3) § 60.482-2(a)(1) [G]§ 60.482-2(b)(2) [G]§ 60.482-2(d)(4) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(f) [G]§ 60.486(h) § 60.486(j)	[G]§ 60.487(c) § 60.487(e)
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-3(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) [G]§ 60.482-3(b) § 60.482-3(c) § 60.482-3(d) § 60.482-3(e)(1) § 60.482-3(e)(2) § 60.482-3(f) § 60.482-3(g)(1) § 60.482-3(g)(2) § 60.482-3(h) [G]§ 60.482-3(i) § 60.482-3(j)	Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482-1(c) and paragraphs (h), (i), and (j) of this section.	§ 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
					§ 60.482-9(a) § 60.482-9(b) § 60.486(k)				
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-4(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-4(b)(1) § 60.482-4(c) § 60.482-4(d)(1) § 60.482-4(d)(2) § 60.482-9(a) § 60.482-9(b) § 60.486(k)	Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in § 60.485(c).	§ 60.482-4(b)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(3) [G]§ 60.486(e)(4) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-5(a) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) [G]§ 60.482-5(b) § 60.482-5(c) § 60.486(k)	Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482-1(c) and paragraph (c) of this section.	§ 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-7(b) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-7(d)(1) § 60.482-7(d)(2) [G]§ 60.482-7(e) [G]§ 60.482-7(f) [G]§ 60.482-7(g) [G]§ 60.482-7(h) § 60.482-9(a)	If an instrument reading of 10,000 ppm or greater is measured for valves in gas/vapor service and in light liquid service, a leak is detected.	§ 60.482-1(f)(1) § 60.482-1(f)(2) [G]§ 60.482-1(f)(3) § 60.482-7(a)(1) [G]§ 60.482-7(a)(2) § 60.482-7(c)(1)(i) § 60.482-7(c)(1)(ii) § 60.482-7(c)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c)	§ 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(f) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.482-9(b) [G]§ 60.482-9(c) § 60.482-9(e) § 60.482-9(f) § 60.486(k)		[G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)		
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-8(b) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-8(a) § 60.482-8(a)(2) § 60.482-8(c)(1) § 60.482-8(c)(2) § 60.482-8(d) § 60.482-9(a) § 60.482-9(b) § 60.486(k)	For flanges and other connectors, if an instrument reading of 10,000 ppm or greater is measured, a leak is detected.	§ 60.482-8(a)(1) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-10(g) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) [G]§ 60.482-10(f) § 60.482-10(h) § 60.482-10(i) [G]§ 60.482-10(j) [G]§ 60.482-10(k) § 60.482-10(m) § 60.486(k)	Leaks, as indicated by the specified instrument or by visual inspections, shall be repaired as soon as practicable except as provided in § 60.482-10(h). § 60.482-10(g)(1)-(2)	§ 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.482-10(l) [G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-10(b) § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-10(m) § 60.486(k)	Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency	§ 60.482-10(e) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	§ 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
						of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.			
ALKFUG	EU	60VV-A	VOC	40 CFR Part 60, Subpart VV	§ 60.482-10(d) § 60.18 § 60.482-1(a) § 60.482-1(b) § 60.482-1(g) § 60.482-10(m) § 60.486(k)	Flares used to comply with this subpart shall comply with the requirements of §60.18.	§ 60.482-10(e) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f) [G]§ 60.485(g)	§ 60.482-1(g) [G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
BDECVS	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.172(a) § 63.162(a) [G]§ 63.162(f) [G]§ 63.162(g) [G]§ 63.172(h) § 63.172(i) § 63.172(m)	Owners/operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in §63.162(b).	[G]§ 63.172(f)(1) [G]§ 63.172(f)(2) § 63.172(g) [G]§ 63.172(h) [G]§ 63.172(l) [G]§ 63.180(b) [G]§ 63.180(d)	[G]§ 63.172(l) § 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) § 63.181(g) § 63.181(g)(1)(i) § 63.181(g)(1)(ii) [G]§ 63.181(g)(2) [G]§ 63.181(g)(3)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDECVS	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.172(d) § 63.11(b) § 63.162(a) [G]§ 63.162(f) [G]§ 63.162(g) § 63.172(e) [G]§ 63.172(h) § 63.172(m)	Flares used to comply with this subpart shall comply with the requirements of § 63.11(b) of 40 CFR 63, Subpart A.	§ 63.172(e) [G]§ 63.172(h) [G]§ 63.180(b) [G]§ 63.180(d) [G]§ 63.180(e)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) § 63.181(g) § 63.181(g)(1)(i) § 63.181(g)(1)(ii) § 63.181(g)(1)(iii) § 63.181(g)(1)(iv) [G]§ 63.181(g)(2)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery	§ 115.357(10)	Instrumentation systems, as defined in	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		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.		[G]§ 115.356(3)(C)	
BDEFUG	EU	R5352-A	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
BDEFUG	EU	R5352-A	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
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery	§ 115.357(2) § 115.352(9)	Each pressure relief valve equipped with a	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		rupture disk must comply with §115.352(9) and §115.356(3)(C).		[G]§ 115.356(3)(C)	
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(7) § 115.357(1)	No process drains shall be allowed to have a VOC leak, for more than 15 days after discovery, which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(1) § 115.357(12) § 115.357(8)	No flanges or other connectors shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 500 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(10)	No flanges or other connectors shall be allowed to have a VOC	§ 115.354(1) § 115.354(10) § 115.354(11)	§ 115.352(7) § 115.354(10) § 115.356	None

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12) § 115.357(8)	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(3) § 115.354(5) § 115.354(6) § 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)	
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5)	None
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as	§ 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(5) § 115.352(7) § 115.357(12) § 115.357(8)	methane, or the dripping or exuding of process fluid based on sight, smell, or sound.			
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(1) § 115.357(8)	No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) [G]§ 115.356(3)(C) § 115.356(5)	None
BDEFUG	EU	R5352-A	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8)	No pump seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dripping or exuding of process fluid based on sight, smell, or sound.	§ 115.354(1) § 115.354(10) § 115.354(2) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.164 § 63.162(a) § 63.162(c) [G]§ 63.162(f)	Standards: Compressors. §63.164(a)-(i)	[G]§ 63.164 [G]§ 63.180(b) [G]§ 63.180(c) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
					[G]§ 63.162(g) § 63.162(h) [G]§ 63.171			[G]§ 63.181(f)	§ 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.165 § 63.162(a) § 63.162(c) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Pressure relief device in gas/vapor service. §63.165(a)-(d)	[G]§ 63.165 [G]§ 63.180(b) [G]§ 63.180(c) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(f)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.166 § 63.162(a) § 63.162(c) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Sampling connection systems. §63.166(a)-(c)	[G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.169 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Pumps in heavy liquid service. §63.169(a)-(d)	[G]§ 63.169 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.169 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Valves in heavy liquid service. §63.169(a)-(d)	[G]§ 63.169 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.169 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) [G]§ 63.162(h) [G]§ 63.171	Standards: Connectors in heavy liquid service. §63.169(a)-(d)	[G]§ 63.169 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
					§ 63.162(h) [G]§ 63.171				[G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.169 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Pressure relief devices in liquid service. §63.169(a)-(d)	[G]§ 63.169 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.169 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Instrumentation systems. §63.169(a)-(d)	[G]§ 63.169 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.174 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Connectors in gas/vapor service and in light liquid service. §63.174(a)-(j)	[G]§ 63.174 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.163 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171 [G]§ 63.176	Standards: Pumps in light liquid service. §63.163(a)-(j)	[G]§ 63.163 [G]§ 63.176 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) § 63.181(h) [G]§ 63.181(h)(3) § 63.181(h)(4) [G]§ 63.181(h)(5) § 63.181(h)(6) § 63.181(h)(7) § 63.181(h)(8)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(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)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.167 § 63.162(a) § 63.162(c) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171 [G]§ 63.175	Standards: Open-ended valves or lines. §63.167(a)-(e).	[G]§ 63.175 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) § 63.181(h) [G]§ 63.181(h)(1) [G]§ 63.181(h)(2) § 63.181(h)(4) [G]§ 63.181(h)(5) § 63.181(h)(6) § 63.181(h)(7) [G]§ 63.181(i)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BDEFUG	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.168 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171 [G]§ 63.175	Standards: Valves in gas/vapor service and in light liquid service. §63.168(a)-(j)	[G]§ 63.168 [G]§ 63.175 [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) § 63.181(h) [G]§ 63.181(h)(1) [G]§ 63.181(h)(2) § 63.181(h)(4) [G]§ 63.181(h)(5) § 63.181(h)(6) § 63.181(h)(7)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
BLR	EP	R1111-B	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(B) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 20% averaged over a six minute period for any source on which construction was begun after January 31, 1972.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
BLR	EU	63DDDD D	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7505 The permit holder shall comply with the applicable	The permit holder shall comply with the applicable requirements of 40	The permit holder shall comply with the applicable monitoring and	The permit holder shall comply with the applicable recordkeeping	The permit holder shall comply with the applicable reporting requirements of 40

### 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)
					limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart DDDDD	CFR Part 63, Subpart DDDDD	testing requirements of 40 CFR Part 63, Subpart DDDDD	requirements of 40 CFR Part 63, Subpart DDDDD	CFR Part 63, Subpart DDDDD
D-5237	EU	R5131-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.137(a)(2) [G]§ 115.132(a)(4)	Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure of VOC < .5 psia obtained from any equipment is exempt from §115.132(a).	[G]§ 115.135(a) § 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	None
D-5251	EU	R5131-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.137(a)(2) [G]§ 115.132(a)(4)	Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure of VOC < .5 psia obtained from any equipment is exempt from §115.132(a).	[G]§ 115.135(a) § 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	None
D-5293	EU	R5131-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.137(a)(2) [G]§ 115.132(a)(4)	Any single or multiple compartment VOC water separator which separates materials having a true vapor pressure of VOC < .5 psia obtained from any equipment is exempt from §115.132(a).	[G]§ 115.135(a) § 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(1) § 115.136(a)(3) § 115.136(a)(4)	None
D-5402	EU	R5131-B	VOC	30 TAC Chapter 115, Water	§ 115.137(a)(2) [G]§ 115.132(a)(4)	Any single or multiple compartment VOC	[G]§ 115.135(a) § 115.136(a)(1)	§ 115.136(a)(1) § 115.136(a)(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)
				Separation		water separator which separates materials having a true vapor pressure of VOC < .5 psia obtained from any equipment is exempt from §115.132(a).	§ 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(4)	
P-10	EU	R5211-A	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(2)(A) § 115.212(a)(2) [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
P-11	EU	R5211-B	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)	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
P-6	EP	R5121-B	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(B) § 60.18	Vent gas affected by §115.121(a)(1) must be controlled properly with a control efficiency > 90% or to a VOC concentration of no more than 20 ppmv	[G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2)	None

**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)
						(dry, corrected to 3% O2 for combustion devices).			
P-7	EP	R5121-B	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(a)(1) § 115.121(a)(1) § 115.122(a)(1)(B) § 60.18	Vent gas affected by §115.121(a)(1) must be controlled properly with a control efficiency > 90% or to a VOC concentration of no more than 20 ppmv (dry, corrected to 3% O2 for combustion devices).	[G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2)	None
PRO-BDE	PRO	63F-1	112(B) HAPS	40 CFR Part 63, Subpart F	§ 63.100(b) [G]§ 63.102(a) [G]§ 63.102(c) § 63.104(a) [G]§ 63.104(d) § 63.104(e) § 63.104(e)(1) [G]§ 63.104(e)(2) § 63.105(d)	Except as provided in paragraphs (b)(4) and (c) of this section, the provisions of subparts F, G, and H apply to chemical manufacturing process units that meet the criteria.	§ 63.103(b)(1) § 63.103(b)(3) § 63.103(b)(4) [G]§ 63.103(b)(5) § 63.103(b)(6) [G]§ 63.104(b)	[G]§ 63.103(c) [G]§ 63.104(e)(2) [G]§ 63.104(f)(1) [G]§ 63.105(b) § 63.105(c) § 63.105(d) § 63.105(e)	§ 63.103(b)(2) [G]§ 63.103(b)(5) [G]§ 63.103(d) [G]§ 63.104(f)(2)
R-5281	EP	60RRR-A	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.702(a)	For each vent stream, reduce TOC by 98%w or to a TOC concentration of 20 ppmv, on a dry basis corrected to 3% oxygen, whichever is less stringent. If a boiler or process heater is used, introduce vent stream as specified.	§ 60.703(c) § 60.703(c)(1) § 60.703(c)(1)(i) § 60.703(c)(2) § 60.704(a) § 60.704(b) § 60.704(b)(1) § 60.704(b)(2) § 60.704(b)(3) [G]§ 60.704(b)(4) § 60.704(b)(6)	§ 60.703(c)(1) § 60.703(c)(2) § 60.705(b) § 60.705(b)(2)(i) § 60.705(b)(2)(ii) § 60.705(c) § 60.705(c) § 60.705(c)(3) § 60.705(c)(4) § 60.705(c)(4) § 60.705(d)(1) § 60.705(s)	§ 60.705(a) § 60.705(b) § 60.705(b)(2)(i) § 60.705(b)(2)(ii) § 60.705(c) § 60.705(c)(3) § 60.705(c)(4) § 60.705(k) § 60.705(l) § 60.705(l)(1) § 60.705(l)(2) § 60.705(s)
R-5402A	EP	60RRR-C	VOC/TOC	40 CFR Part 60,	§ 60.700(c)(5)	Vent streams routed to	None	None	§ 60.705(r)

**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 RRR		distillation units subject to subpart NNN with no other air releases except for a pressure relief valve, are exempt from all provisions of this subpart except for §60.705(r).			
R-5402B	EP	60RRR-C	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.700(c)(5)	Vent streams routed to distillation units subject to subpart NNN with no other air releases except for a pressure relief valve, are exempt from all provisions of this subpart except for §60.705(r).	None	None	§ 60.705(r)
T-5401	EP	60NNN-A	VOC/TOC	40 CFR Part 60, Subpart NNN	§ 60.662(a) § 60.665(m)	Affected facilities shall reduce TOC emissions by 98 weight-percent or to a concentration of 20ppmv, whichever is less stringent. Introduce the stream into the flame zone of a boiler/process heater.	§ 60.663(c) § 60.663(c)(1) § 60.663(c)(2) § 60.664(a) § 60.664(b) § 60.664(b)(1) § 60.664(b)(2) § 60.664(b)(3) [G]§ 60.664(b)(4)	§ 60.663(c)(1) § 60.663(c)(2) § 60.665(b) § 60.665(b)(2) § 60.665(b)(2)(i) § 60.665(b)(2)(ii) § 60.665(c) § 60.665(c)(3) § 60.665(c)(4) § 60.665(c)(4) § 60.665(d)	§ 60.665(a) § 60.665(b) § 60.665(b)(2) § 60.665(b)(2)(i) § 60.665(b)(2)(ii) § 60.665(c) § 60.665(c)(3) § 60.665(c)(4) § 60.665(k) § 60.665(l) § 60.665(l)(1) § 60.665(l)(2)
TK-9804	EU	R5112-B	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	[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)
						exempt from the requirements of this division.			
TK-9811	EU	R5112-B	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(a)(1) § 115.112(a)(3) § 60.18	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)(2) [G]§ 115.117 ** See Periodic Monitoring Summary	§ 115.118(a)(5) § 115.118(a)(7)	None
TK-9811	EU	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.119(e) § 63.11 § 63.119(a)(2) § 63.119(e)(1) § 63.119(e)(3) § 63.119(e)(4) § 63.119(e)(5) § 63.172(a) [G]§ 63.172(h) § 63.172(i) § 63.172(m)	The owner or operator who elects to use a closed vent system and control device (defined in § 63.111) to comply with §63.119(a)(1) or (a)(2) shall comply with §63.119(e)(1)-(5).	§ 63.120(e)(1) § 63.120(e)(4) § 63.148(k) [G]§ 63.172(f)(1) [G]§ 63.172(f)(2) § 63.172(g) [G]§ 63.172(h) [G]§ 63.172(k) [G]§ 63.172(l) [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.123(a) [G]§ 63.123(f)(2) [G]§ 63.152(a) [G]§ 63.172(k) [G]§ 63.172(l) § 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d) § 63.181(g) § 63.181(g)(1)(i) § 63.181(g)(1)(ii) [G]§ 63.181(g)(2) [G]§ 63.181(g)(3)	[G]§ 63.120(e)(2) § 63.120(e)(3) § 63.122(a)(3) § 63.122(a)(4) § 63.122(c)(2) [G]§ 63.122(g)(1) [G]§ 63.122(g)(3) § 63.151(a)(7) [G]§ 63.151(b) [G]§ 63.151(j) § 63.152(a) § 63.152(a)(1) § 63.152(a)(3) § 63.152(a)(4) § 63.152(a)(5) § 63.152(b) [G]§ 63.152(b)(1) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G] §63.152(c)(2)(ii) § 63.152(c)(2)(iii) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(4)(ii)

**Applicable Requirements Summary**

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
									[G]§ 63.152(c)(6) [G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
X-9817A	EU	R1111-A	PM (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, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
X-9817A	CD	63A-1	112(B) HAPS	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
X-9817B	EU	R1111-A	PM (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, except for upset emissions as provided in §101.11(a).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
X-9817B	CD	63A-1	112(B) HAPS	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1)	Flares shall be designed and operated	§ 63.11(b)(4) § 63.11(b)(5)	None	None

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	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)(7)(i)		
X-9835	EU	60Db-A	SO <sub>2</sub>	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
X-9835	EU	60Db-A	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted in the unit > 29 MW (100 MMBtu/hr).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
X-9835	EU	60Db-A	PM (OPACITY)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	This subpart applies to each steam generating unit constructed, modified, or reconstructed after 6/19/84, and that has a heat input capacity from fuels combusted	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

**Applicable Requirements Summary**

<b>Unit Group Process ID No.</b>	<b>Unit Group Process Type</b>	<b>SOP Index No.</b>	<b>Pollutant</b>	<b>State Rule or Federal Regulation Name</b>	<b>Emission Limitation, Standard or Equipment Specification Citation</b>	<b>Textual Description (See Special Term and Condition 1.B.)</b>	<b>Monitoring And Testing Requirements</b>	<b>Recordkeeping Requirements (30 TAC § 122.144)</b>	<b>Reporting Requirements (30 TAC § 122.145)</b>
						in the unit > 29 MW (100 MMBtu/hr).			
X-9835	EU	60Db-A	NO <sub>x</sub>	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 60.44b(d) § 60.46b(a)	Affected facilities combusting coal, oil, or natural gas, or a mixture of these fuels, or any other fuels: a limit of 86 ng/JI (0.20 lb/million Btu) heat input unless the affected facility meets the specified requirements.	§ 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)(2) § 60.49b(h)(2)(ii) § 60.49b(h)(4) § 60.49b(i) § 60.49b(v) § 60.49b(w)
X-9835	EU	36DDDD D	112(B) HAPS	40 CFR Part 63, Subpart DDDDD	§ 63.7505 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart DDDDD	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart DDDDD

**Additional Monitoring Requirements**

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### CAM Summary

Unit/Group/Process Information	
ID No.: P-6	
Control Device ID No.: X-9817B	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-B
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: The absence of a pilot flame, after visual verification, is a deviation.	
<p>CAM Text: Monitor the presence of a flare pilot flame using a thermocouple or other equivalent device to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame. Maintain records of alarm events and duration of alarm events. 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>In the event of a monitor malfunction or if an alarm event is recorded, a visual verification of the pilot flames presence or absence shall be conducted and continued at an interval of once every 15 minutes until the monitoring system is operating properly or when the alarm event has concluded. When emissions are routed to the flare, the absence of all flare pilot flames as verified by visual observations shall be considered and reported as a deviation.</p>	

### CAM Summary

Unit/Group/Process Information	
ID No.: P-7	
Control Device ID No.: X-9817A	Control Device Type: Flare
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-B
Pollutant: VOC	Main Standard: § 115.122(a)(1)
Monitoring Information	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: The absence of a pilot flame, after visual verification, is a deviation.	
<p>CAM Text: Monitor the presence of a flare pilot flame using a thermocouple or other equivalent device to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame. Maintain records of alarm events and duration of alarm events. 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>In the event of a monitor malfunction or if an alarm event is recorded, a visual verification of the pilot flames presence or absence shall be conducted and continued at an interval of once every 15 minutes until the monitoring system is operating properly or when the alarm event has concluded. When emissions are routed to the flare, the absence of all flare pilot flames as verified by visual observations shall be considered and reported as a deviation.</p>	

### Periodic Monitoring Summary

<b>Unit/Group/Process Information</b>	
ID No.: BLR	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-B
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(B)
<b>Monitoring Information</b>	
Indicator: Visible emissions	
Minimum Frequency: Quarterly	
Averaging Period: n/a	
Deviation Limit: It is a deviation if opacity exceeds 20%.	
<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 a Test Method 9 is performed, the opacity limit is 20%. If the result of the Test Method 9 is opacity above 20%, the permit holder shall report a deviation.</p>	

### Periodic Monitoring Summary

<b>Unit/Group/Process Information</b>	
ID No.: TK-9811	
Control Device ID No.: X-9817B	Control Device Type: Flare
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-B
Pollutant: VOC	Main Standard: § 115.112(a)(1)
<b>Monitoring Information</b>	
Indicator: Pilot flame	
Minimum Frequency: Once per hour	
Averaging Period: n/a	
Deviation Limit: Loss of all pilots on flare	
<p>Periodic Monitoring Text: Measure and record the presence of the pilot flame or maintain records of alarm events and duration of alarm events. The presence of a flare pilot flame shall be monitored using a thermocouple or any 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. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. In the event the thermocouple or equivalent monitoring device is experiencing a system malfunction and/or a false alarm for greater than 15 minutes, a visual verification of the pilot flames presence or absence shall be conducted and continued at an interval of once per hour as an optional means of compliance with this periodic monitoring provision until the system is operating properly. After visual verification, the lack of all pilot flames on the flare shall be considered and reported as 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		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
ALKFUG	N/A	40 CFR Part 63, Subpart H	Unit is not subject to the provisions of a specific subpart in 40 CFR Part 63 that references this subpart H.
BDECVS	N/A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Pressure relief valves vent to a closed vent system and control device.
BDEFUG	N/A	40 CFR Part 60, Subpart VV	Rule overlap. The unit complies with 40 CFR Part 63, Subpart H.
CT	N/A	40 CFR Part 61, Subpart L	The cooling tower is not located at a coke by-product recovery plant.
CT	N/A	40 CFR Part 63, Subpart Q	The unit is not operated with chromium-based water treatment chemicals.
D-5237	N/A	40 CFR Part 63, Subpart G	The unit does not meet the definition of waste management unit. It does not convey, store, treat, or dispose of a wastewater stream.
D-5251	N/A	40 CFR Part 63, Subpart G	The unit does not meet the definition of waste management unit. It does not convey, store, treat, or dispose of a wastewater stream.
D-5272	N/A	40 CFR Part 60, Subpart K	The storage vessel does not store a petroleum liquid.
D-5272	N/A	40 CFR Part 60, Subpart Ka	The storage vessel does not store a petroleum liquid.
D-5272	N/A	40 CFR Part 60, Subpart Kb	The vessel is designed to operate in

### Permit Shield

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

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
			excess of 204.9 kPa and without emissions to the atmosphere.
D-5272	N/A	40 CFR Part 61, Subpart Y	The storage vessel does not store refined or industrial grade benzene.
D-5272	N/A	40 CFR Part 63, Subpart F	This is a pressure vessel designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.
D-5279X	N/A	40 CFR Part 60, Subpart K	The storage vessel does not store a petroleum liquid.
D-5279X	N/A	40 CFR Part 60, Subpart Ka	The storage vessel does not store a petroleum liquid.
D-5279X	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity less than 75 cubic meters.
D-5279X	N/A	40 CFR Part 61, Subpart Y	The storage vessel does not store refined or industrial grade benzene.
D-5279X	N/A	40 CFR Part 63, Subpart F	The vessel has a capacity less than 38 cubic meters.
D-5282	N/A	40 CFR Part 60, Subpart K	The storage vessel does not store a petroleum liquid.
D-5282	N/A	40 CFR Part 60, Subpart Ka	The storage vessel does not store a petroleum liquid.
D-5282	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity less than 75 cubic meters.

### Permit Shield

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

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
D-5282	N/A	40 CFR Part 61, Subpart Y	The storage vessel does not store refined or industrial grade benzene.
D-5282	N/A	40 CFR Part 63, Subpart F	This is not a storage vessel by definition but a pressure vessel designed to operate in excess of 204.9 kPa and without emissions to the atmosphere.
D-5293	N/A	40 CFR Part 63, Subpart G	This is not a waste management unit (oil/water separator) by definition. It does not convey, store, treat, or dispose of a wastewater stream.
D-5293	N/A	40 CFR Part 63, Subpart VV	Another applicable subpart does not reference MACT VV.
D-5402	N/A	40 CFR Part 63, Subpart G	This is not a waste management unit (oil/water separator) by definition. It does not convey, store, treat, or dispose of a wastewater stream.
D-5402	N/A	40 CFR Part 63, Subpart VV	Another applicable subpart of 40 CFR Part 60, 61, 63 does not reference MACT VV.
P-10	N/A	40 CFR Part 63, Subpart F	Loaded liquids contain organic hazardous air pollutants as impurities only.
P-11	N/A	40 CFR Part 63, Subpart F	Loaded liquids contain organic hazardous air pollutants as impurities only.
P-6	N/A	40 CFR Part 63, Subpart F	This unit does not contain any continuous vent streams from an air oxidation

### Permit Shield

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

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
			reactor, distillation unit or reactor.
P-7	N/A	40 CFR Part 63, Subpart F	This unit does not contain any continuous vent streams from an air oxidation reactor, distillation unit or reactor.
TK-9804	N/A	40 CFR Part 60, Subpart Kb	Storage vessel has a capacity greater than 151 m <sup>3</sup> and storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa).
TK-9811	N/A	40 CFR Part 60, Subpart Kb	Rule overlap, the tank complies with 40 CFR 63, Subpart G.
TK-9811	N/A	40 CFR Part 61, Subpart Y	The storage vessel does not store refined or industrial grade benzene.
X-9817A	N/A	30 TAC Chapter 117, Subchapter B	Flares are exempt from the provisions of Subchapter B, Division 1.
X-9817A	N/A	40 CFR Part 60, Subpart A	The flare is not required by a subpart under 40 CFR Part 60.
X-9817B	N/A	30 TAC Chapter 117, Subchapter B	Flares are exempt from the provisions of Subchapter B, Division 1.
X-9817B	N/A	40 CFR Part 60, Subpart A	The flare is not required by a subpart under 40 CFR Part 60.
X-9835	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel fired steam generator.
X-9835	N/A	30 TAC Chapter 117, Subchapter B	Unit placed into service after November

### Permit Shield

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

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
			15, 1992.
Z-9811	N/A	40 CFR Part 60, Subpart K	The storage vessel does not store a petroleum liquid.
Z-9811	N/A	40 CFR Part 60, Subpart Ka	The storage vessel does not store a petroleum liquid.
Z-9811	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is greater than 151 cubic meters and storing a liquid with maximum true vapor pressure less than 3.5 kPa.
Z-9811	N/A	40 CFR Part 61, Subpart Y	The storage vessel does not store refined or industrial grade benzene.
Z-9811	N/A	40 CFR Part 63, Subpart F	The tank is used to store storm water.

**New Source Review Authorization References**

**New Source Review Authorization References..... 50**

**New Source Review Authorization References by Emission Unit..... 51**

### 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.: PSDTX950	Issuance Date: 02/08/2013
<b>Nonattainment (NA) Permits</b>	
NA Permit No.: N018	Issuance Date: 02/08/2013
<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.: 41945	Issuance Date: 02/08/2013
<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: 106.476	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.

<b>Unit/Group/Process ID No.</b>	<b>Emission Unit Name/Description</b>	<b>New Source Review Authorization</b>
ALKFUG	FUGITIVES INAIK UNIT	41945, N018, PSDTX950
BDECVS	BUTADIENE UNIT CLOSED VENT SYSTEM	41945, N018, PSDTX950
BDEFUG	FUGITIVES BUTADIENE UNIT	41945, N018, PSDTX950
BLR	SATURATED STEAM BOILER	41945, N018, PSDTX950
BLR	SATURATED STEAM BOILER EMISSION POINT	41945, N018, PSDTX950
CT	C4 COOLING TOWER	41945, N018, PSDTX950
D-5237	SEPARATOR	41945, N018, PSDTX950
D-5251	REGENERATED SOLVENT RECIEVER	41945, N018, PSDTX950
D-5272	NMP STOP VESSEL	41945, N018, PSDTX950
D-5279X	ANTIFOULANT DRUM	41945, N018, PSDTX950
D-5282	C4 SELECTIVE HYDROGENATION SEPARATOR	41945, N018, PSDTX950
D-5293	WATER SETTLING TANK	41945, N018, PSDTX950
D-5402	PRODUCT STRIPPER RECEIVER	41945, N018, PSDTX950
P-10	TANK TRUCK LOADING	41945, N018, PSDTX950
P-11	DRUM LOADING	41945, N018, PSDTX950
P-6	LP FLARE	41945, N018, PSDTX950
P-7	HP FLARE	41945, N018, PSDTX950
PRO-BDE	BUTADIENE UNIT CMPU	41945, N018, PSDTX950
R-5281	C4 SELECTIVE HYDOGENATION REACTORS	41945, N018, PSDTX950

**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.

<b>Unit/Group/Process ID No.</b>	<b>Emission Unit Name/Description</b>	<b>New Source Review Authorization</b>
R-5402A	POLY REACTOR	41945, N018, PSDTX950
R-5402B	POLY REACTOR	41945, N018, PSDTX950
T-5401	DEBUTANIZER	41945, N018, PSDTX950
TK-9804	STORM WATER TANK	41945, N018, PSDTX950
TK-9811	BD PRODUCT STORAGE TANK	41945, 106.476/09/04/2000, N018, PSDTX950
X-9817A	HP FLARE	41945, N018, PSDTX950
X-9817B	LP FLARE	41945, N018, PSDTX950
X-9835	SATURATED STEAM BOILER	41945, N018, PSDTX950
Z-9811	STORM WATER DEVERSION SUMP	41945, N018, PSDTX950

**Appendix A**

**Acronym List ..... 54**

## 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
COMS	continuous opacity monitoring system
CVS	closed-vent system
D/FW	Dallas/Fort Worth (nonattainment area)
DR	Designated Representative
EIP	El Paso (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
GF	grandfathered
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
MMBtu/hr	Million British thermal units per hour
MRRT	monitoring, recordkeeping, reporting, and testing
NA	nonattainment
N/A	not applicable
NADB	National Allowance Data Base
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
PM	particulate matter
ppmv	parts per million by volume
PSD	prevention of significant deterioration
RO	Responsible Official
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 ..... 56**

## Major NSR Summary Table

Permit Number: 41945/ PSDTX950/ No18M1			Issuance Date: 02/08/2013				
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)	Spec. Cond.	Spec. Cond.	Spec. Cond.
P-3	Product Inhibitor Tank Vent	VOC (6)	0.01	0.01	6	6, 26	6
P-6	Low-Pressure Flare	VOC (6) NOx (6) CO (6) SO2 (6) H2S	165.69 10.28 70.21 1.55 0.02	2.49 2.93 15.14 0.58 0.01	11,12, 41, 42	5, 11,12, 18, 41, 42	
P-7	High-Pressure Flare	VOC (6) NOx (6) CO (6) SO2 (6) H2S	139.92 12.02 61.25 13.77 0.13	32.28 8.31 42.34 1.30 0.01	11,12, 41, 42	5, 11,12, 18, 41, 42	
TK-9804	Storm Water Tank	VOC (6)	0.69	0.37	6	6, 26	6
CT	Cooling Tower	VOC (6) PM10 (6)	10.70 2.31	13.43 6.72	13	13	
ALKFUG	Fugitives InAlk Unit (5)	VOC (6)	0.69	3.03	2, 9, 34, 35	2, 9, 26, 34, 35	2, 9
BDEFUG	Fugitives Butadiene Unit (5)	VOC (6)	1.49	6.54	2, 9, 34, 35	2, 9, 26, 34, 35	2, 9
UTILFUG	Utility Fugitives (5)	VOC (6)	0.43	1.86	2, 9	2, 9, 26	2, 9
P-10	Tank Truck Loading	VOC (6)	0.22	0.01	6	6, 26	6
BLR	Boiler	VOC (6) NOx (6) CO (6) PM10 (6) SO2 (6) NH3	1.22 4.86 17.75 1.46 3.46 0.75	5.32 7.45 77.76 6.39 15.13 3.30	2, 16, 17, 22, 23, 24	2, 16, 17, 18, 22, 23, 24, 25, 26, 40	2, 22, 23, 27
NH3FUGST	Fugitives-Ammonia Storage (5)	NH3	0.01	0.06	19, 20	19, 20, 26	
NH3FUGSKID	Fugitives-Injection Skid (5)	NH3	0.01	0.02	19	19, 26	
P-12	Ammonia Scrubber	NH3	0.12	0.01	30	30	
<b>Maintenance, Startup, and Shutdown Emissions</b>							
P-7	High-Pressure Flare Turnaround Cap	VOC NOx CO SO2 H2S	- - - - -	14.35 1.15 5.85 0.04 0.01	11,12, 31, 33, 41, 42	5, 11,12, 18, 31, 33, 41, 42	

## Major NSR Summary Table

Permit Number: 41945/ PSDTX950/ No18M1			Issuance Date: 02/08/2013				
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)	Spec. Cond.	Spec. Cond.	Spec. Cond.
P-7	High-Pressure Flare MSS Cap	VOC	-	27.00	11,12, 31, 33, 41, 42	5, 11,12, 18, 31, 33, 41, 42	
		NO <sub>x</sub>	-	4.43			
		CO	-	22.58			
		SO <sub>2</sub>	-	0.75			
		H <sub>2</sub> S	-	0.01			
P-7	High-Pressure Flare Turnaround and MSS Short-Term Cap	VOC	1,114.39	-	11,12, 31, 33, 41, 42	5, 11,12, 18, 31, 33, 41, 42	
		NO <sub>x</sub>	74.13	-			
		CO	377.72	-			
		SO <sub>2</sub>	5.26	-			
		H <sub>2</sub> S	0.06	-			
P-6	Low-Pressure Flare Turnaround Cap	VOC	169.65	1.36	11,12, 31, 33, 41, 42	5, 11,12, 18, 31, 33, 41, 42	
		NO <sub>x</sub>	11.2	0.09			
		CO	57.09	0.46			
TA CAP	Turnaround Cap (Non- Flare)	VOC	22.17	1.21	32, 33, 34, 35, 36, 41	31, 32, 33, 34, 35, 36, 38, 41	
		PM	0.35	0.52			
		PM <sub>10</sub>	0.35	0.52			
		PM <sub>2.5</sub>	0.35	0.52			
MSS CAP	MSS Cap (Non-Flare)	VOC	14.42	1.94	32, 33, 34, 35, 36, 41	31, 32, 33, 34, 35, 36, 38, 41	
		PM	0.47	0.36			
		PM <sub>10</sub>	0.41	0.36			
		PM <sub>2.5</sub>	0.36	0.36			

Footnotes:

- (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> - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
  - PM<sub>2.5</sub> - particulate matter (PM) equal to or less than 2.5 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 2.5 microns is emitted.
  - CO - carbon monoxide
  - NH<sub>3</sub> - ammonia
  - H<sub>2</sub>S - hydrogen sulfide
- (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) These emissions are permitted under Prevention of Significant Deterioration or Non-attainment Review in addition to State Review.



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
AIR QUALITY PERMIT



A Permit Is Hereby Issued To  
**SABINA PETROCHEMICALS LLC**  
Authorizing the Construction and Operation of  
**C4 Olefins Complex**  
Located at **Port Arthur, Jefferson County, Texas**  
Latitude 29° 54' 14" Longitude 94° 3' 18"

Permit: 41945, PSDTX950 and No18  
Amendment Date : February 8, 2013  
Renewal Date: December 22, 2021

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

- 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 116.116 (30 TAC 116.116)]
- 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(a), (b) and (c)]
- 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)]
- 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)(iii)]
- 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; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

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1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on the maximum allowable emission rates table (MAERT) and other requirements specified in the special conditions. **(PSD, N)**

### Federal Applicability

2. 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 for:
  - A. General Provisions, Subpart A.
  - B. Industrial-Commercial-Institutional Steam Generating Units in Title 40 Code of Federal Regulations (40 CFR) Part 60, Subpart Db.
  - C. Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) in 40 CFR Part 60, Subpart Kb.
  - D. Equipment Leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) in 40 CFR Part 60, Subpart VV.
  - E. The VOC Emissions from SOCMI Distillation Operations in 40 CFR Part 60, Subpart NNN.
  - F. Standards of Performance for VOC emissions from SOCMI Reactor Processes in 40 CFR Part 60, Subpart RRR.
3. These facilities shall comply with all applicable requirements of EPA regulations on Standards of Performance for New Stationary Sources upon promulgation for the Standards of Performance for VOC Emissions from SOCMI Wastewater, 40 CFR Part 60, Subparts A and YYY.
4. If any condition of this permit is more stringent than the regulations so incorporated, then for purposes of complying with this permit, the permit conditions will govern and be the standard by which compliance is demonstrated.

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Emission Standards and Operating Specifications

5. The maximum 1, 3-butadiene production rate shall not exceed one billion pounds per year (lbs/yr) (based on a 12-month rolling average). The maximum alkylate (mixture of iso-octanes) production rate shall not exceed one billion lbs/yr (based on a 12-month rolling average). Monthly records of the annual butadiene and alkylate production rate shall be maintained on-site for a period of five years and made available to representatives of the Texas Commission on Environmental Quality (TCEQ) upon request. **(PSD, N)**
  
6. Storage and Loading of VOC (Applicable to Emission Point Nos. [EPNs]: P-3, TK-9804, and TK-9810)
  - A. The control requirements specified in paragraphs B through E of this condition shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.5 pound per square inch, absolute (psia) at the maximum expected operating temperature or (2) to storage tanks smaller than 25,000 gallons.
  - B. An internal floating deck or “roof” or equivalent control shall be installed in all tanks. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof: (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal. Installation of equivalent control requires prior review and approval by the TCEQ Executive Director.
  - C. An open-top tank containing a floating roof (external floating roof tank) which uses double seal or secondary seal technology shall be an approved control alternative to an internal floating roof tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal, and the secondary seal is rim-mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.
  - D. For any tank equipped with a floating roof, the holder of this permit shall follow 40 CFR § 60.113b, Testing and Procedures, to verify seal integrity. Additionally, the permit holder shall follow 40 CFR § 60.115b, Reporting and Recordkeeping Requirements, to provide records of the dates seals were inspected, seal integrity, and corrective actions taken.
  - E. The floating roof design shall incorporate sufficient flotation to conform to the requirements of American Petroleum Institute (API) Code 650, or an equivalent degree of flotation, except that an internal floating cover need not

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be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

- F. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum.
  - G. For purposes of assuring compliance with VOC emission limitations, the holder of this permit shall maintain a monthly emissions record which describes calculated emissions of VOC from all storage tanks and loading operations. The record shall include tank or loading point identification number, control method used, tank or vessel capacity in gallons, name of the material stored or loaded, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, and 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. These records shall be maintained at the plant site for at least two years and be made available to representatives of the TCEQ upon request.
  - H. Emissions for tanks and loading operations shall be calculated using: (a) AP-42 "Compilation of Air Pollution Emission Factors, Chapter 12 - Storage of Organic Liquids" and (b) the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks."
  - I. Operation without visible liquid leaks or spills shall be maintained at all loading and unloading facilities, regardless of vapor pressure. This does not apply to momentary dripping associated with the initial connection or disconnection of fittings. Sustained dripping from fittings during loading and unloading operations is not permitted. Any liquid spill that occurs during loading and unloading activities shall be reported pursuant to Title 30 Texas Administrative Code (30 TAC) §§ 101.201 and shall be cleaned up immediately to minimize air emissions. **(N)**
7. Tank TK-9811 is exempt from the control requirements of Special Condition No. 6. During normal operation, the temperature of Tank TK-9811 contents shall be maintained such that tank venting does not occur during normal operations. The storage temperature of Tank TK-9811 shall be maintained at or below 29°F. **(N)**
8. Residue associated with the Butadiene NMP Solvent Regeneration System may be loaded into tank trucks. When loading NMP residue into tank trucks, loading will be controlled by the Low Pressure Flare, EPN P-6. The NMP may also be loaded into drums at a rate of 1,500 drums per year. **(N)**

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Fugitive Monitoring

9. Piping, Valves, Pumps, Agitators, and Compressors - Intensive Directed Maintenance - 28LAER

Except as may be provided for in the special conditions of this permit, the following requirements apply to the above-referenced equipment: **(N)**

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

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

- (1) piping and instrumentation diagram (PID);
  - (2) a written or electronic database or electronic file;
  - (3) color coding;
  - (4) a form of weatherproof identification; or
  - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe-to-monitor

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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. In addition, all connectors shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program in accordance with items F thru J of this special condition. In lieu of the monitoring frequency specified above, connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

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

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

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

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

Where:

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

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

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

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

- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer with a directed maintenance program. Non-accessible valves shall be monitored by leak-checking for fugitive emissions at least annually using an approved gas analyzer with a directed maintenance program. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown. 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.

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 are 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.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an

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approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. Replaced components shall be re-monitored within 15 days of being placed back into VOC service.

- G. All new and replacement pumps, compressors, and agitators shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems need not be monitored and 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.

All other pump, compressor, and agitator seals shall be monitored with an approved gas analyzer at least quarterly.

- H. Damaged or leaking valves, connectors, compressor seals, pump seals, and agitator seals 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. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained. 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. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may

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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.

- I. 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.
- J. 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.
- K. In lieu of the monitoring frequency specified in paragraph F, valves in gas and light liquid service may be monitored on a semiannual basis if the percent of valves leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

Valves in gas and light liquid service may be monitored on an annual basis if the percent of valves leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.

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

- L. The percent of valves leaking used in paragraph K shall be determined using the following formula:

$$(Vl + Vs) \times 100 / Vt = Vp$$

Where:

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

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$V_s$  = the number of valves for which repair has been delayed and are listed on the facility shutdown log.

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

$V_p$  = the percentage of leaking valves for the monitoring period.

- M. Any component found to be leaking by physical inspection (i.e., sight, sound, or smell) shall be repaired or monitored with an approved gas analyzer within 15 days to determine whether the component is leaking in excess of 500 ppmv of VOC. If the component is found to be leaking in excess of 500 ppmv of VOC, it shall be subject to the repair and replacement requirements contained in this special condition.

### Emission Control

10. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than one percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves or rupture discs of gases containing volatile organic compounds (VOC) at a concentration greater than one weight percent are not consistent with good practice for minimizing emissions with the following exception: Storage tanks P-3, TK-9810, TK-9811 and TK9804 during normal operations. Storage Spheres SPH-9801, SPH-9802, SPH-9803, SPH-9804, and storage tank TK 5275 are exempt from this requirement during a turnaround provide that they are included in the LDAR program during that time.
11. Flares (EPNs P-6 and P-7) shall be designed and operated in accordance with the following requirements: **(12/11)**
- A. All hydrocarbon storage tanks and process vessels shall be routed to either the High Pressure Flare (EPN P-7), or the Low Pressure Flare (EPN P-6), or back into the process. The flares shall operate with no less than 99 percent efficiency in disposing of ethylene and propylene, and 98 percent efficiency in disposing of carbon compounds captured by the collection system. Exceptions to this requirement are noted in Special Condition No. 10.

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- B. The combined assist natural gas and waste stream to each flare shall meet the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow conditions. Compliance with this condition shall be demonstrated by monitoring required in Section E below.

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

- C. The flare shall be operated with a flame present at all times and have a constant pilot flame. The pilot flame shall be monitored by a thermocouple or an infrared monitor. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications. The readings shall be continuously recorded and the records shall be maintained for a period of five years.
- D. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Such operation shall be ensured by the use of steam assist to the flare. The permit holder shall ensure proper operation of the steam assist through monitoring by Section E below.
- E. The permit holder shall install a continuous flow monitor and composition analyzer that provides a record of the vent stream flow and composition (total VOC or Btu content) to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour. Records of the hourly averages shall be maintained for five years and be made available to representatives of the TCEQ upon request.

The monitors shall be calibrated on an annual basis to meet the following accuracy specifications: the flow monitor shall be  $\pm 5.0$  percent, temperature monitor shall be  $\pm 2.0$  percent at absolute temperature, and pressure monitor shall be  $\pm 5.0$  mm Hg.

The calorimeter (BTU analyzer) shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to

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continuously measure and record the net heating value of the gas sent to the flare, in British thermal units/standard cubic foot of the gas.

The monitors and analyzers shall operate as required by this section at least 95 percent of the time when the flare is operational, averaged over a rolling 12-month period. Flared gas net heating value and actual exit velocity determined in accordance with 40 CFR § 60.18(f)(4) shall be recorded at least once every 15 minutes. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit application. **(PSD, N)**

12. The following requirements apply to capture systems for the High Pressure Flare (EPN P-7), or the Low Pressure Flare (EPN P-6).

If there is a bypass for the control device, comply with either of the following requirements.

- A. Install a flow indicator that records and verifies zero flow at least once every 15 minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or
- B. Once a month, inspect the valves, verifying that the position of the valves and the condition of the car seals prevent flow out the bypass.

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device. A bypass for this paragraph does not include analyzer vents that are permitted, highpoint bleeder vents or low point drains for maintenance, or rupture discs used in series with pressure relief valves that have pressure monitoring between which is checked and recorded at least weekly.

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 take necessary corrective action as soon as practicable, but not later than 15 calendar days.

13. Cooling Tower and Heat Exchanger System in VOC Service

The cooling tower water shall be monitored monthly for VOC leakage from heat exchangers in accordance with the requirements of the TCEQ Sampling Procedures

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Manual, Appendix P (dated January 2003 or a later edition) or another air stripping method approved by the TCEQ Executive Director.

Cooling water VOC concentrations above 0.05 ppmw indicate faulty equipment. Equipment shall be maintained so as to minimize VOC emissions into the cooling water. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs.

Emissions from the cooling tower are not authorized if the VOC concentration of the water returning to the cooling tower exceeds 0.50 ppmw. The VOC concentrations above 0.50 ppmw are not subject to extensions for delay of repair under this permit condition. The results of the monitoring and maintenance efforts shall be recorded. **(N)**

14. Heat exchangers involved in the butadiene unit cooling water cycle shall be of single pass seal welded tube sheets and inspected during all planned shutdowns in accordance with American Petroleum Institute Procedure; API-581. **(N)**
15. All process wastewater from the butadiene/alkylate (iso-octanes) unit shall be handled in an enclosed collection system. Process wastewater shall be completely segregated from the storm water gathering system. The process wastewater shall be collected and routed to the treatment facilities in the ethylene cracking unit (Permit Number 36644). **(N)**
16. Boiler

Emissions from the C4 Boiler Stack (EPN BLR) shall not exceed the following:

- A. Nitrogen oxides (NO<sub>x</sub>): 0.007 lb/MMBtu (12-month rolling average) and 0.020 lb/MMBtu (hourly average)
- B. Carbon monoxide (CO): 100 ppmv

In addition, the boiler shall be equipped with a Selective Catalytic Reduction (SCR) system for the control of NO<sub>x</sub> emissions. The ammonia (NH<sub>3</sub>) slip from the SCR shall not exceed 5 ppmv.

The fuel flow of the fuel gas firing the C4 Boiler (Maximum firing rate: 243 MMBtu/hr) shall be continuously monitored and recorded. Records of the annual average and one-hour maximum firing rates shall be maintained for a period of five years and made available to a representative of the TCEQ upon request.

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The C4 Boiler may operate in hot standby mode, defined as 20 percent of the maximum firing rate listed above or less, for up to 7,000 hours per year each. During hot standby operation, the emission limits for NO<sub>x</sub> and CO as stated above do not apply to the C4 Boiler. However, the lb/hr and ton per year (TPY) emission rate limits stated on the MAERT shall not be exceeded for any unit under any operating condition. The holder of this permit shall maintain monthly records and a cumulative 12-month total of the hours each unit is operated in hot standby mode.

These records shall be maintained at the plant site for a period of five years and made available to representatives of the TCEQ upon request.

**(PSD, N)**

17. The opacity of emission from the C4 Boiler shall not exceed 5 percent averaged over a six-minute period, except for those periods described in 30 TAC § 111.111(a)(1)(E). Opacity readings shall be conducted on a quarterly basis per 40 CFR Part 60 Appendix A, Method 9. This reading shall be taken by a certified opacity reader. These records shall be maintained on-site for a period of five years.
18. Fuel gas for the C4 Boiler, flare header purges, and pilot/supplemental fuel to the flare shall be pipeline spec natural gas with no more than 5 grains total sulfur per 100 dry standard cubic feet. The holder of this permit shall maintain total sulfur concentration records provided by the natural gas company from which the fuel gas is purchased. In addition, these records shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request. **(PSD, N)**
19. The permit holder shall maintain a quantity of no more than 1,700 gallons of anhydrous NH<sub>3</sub> for the SCR system associated with the C4 Boiler (EPN BLR). Additionally, the permit holder shall maintain prevention and protection measures for the NH<sub>3</sub> storage system as represented in the permit application which includes (but is not limited to) the following:
  - A. The NH<sub>3</sub> storage tank area will be marked and secured so as to protect the NH<sub>3</sub> storage tank from accidents that could cause a rupture.
  - B. A water deluge system shall be installed to cover the tank and loading area to mitigate any airborne releases of NH<sub>3</sub>.
  - C. In the event of a release of the NH<sub>3</sub> from the liquid fill line, pressure vessel due to over pressurization, process line to the SCR system, or the vapor return lines from the vaporizer, or any other accidental release of NH<sub>3</sub>, the permit holder shall follow the mitigation procedures set out in the permit application

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and follow the contingency plan that will be complete before start-up of the SCR.

- D. The following audio, visual, and olfactory inspection of piping, valves, pumps, and compressors in NH<sub>3</sub> service shall be followed:
- (1) Audio, olfactory, and visual checks for NH<sub>3</sub> leaks within the operating area shall be made every 12 hours.
  - (2) Immediately, but no later than one hour upon detection of a leak, plant personnel shall take the following actions:
    - a. Isolate the leak.
    - b. Commence repair or replacement of the leaking component.
    - c. Use a leak collection or 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 TCEQ upon request.

20. The NH<sub>3</sub> detectors shall be placed in the storage area to continuously monitor for equipment leaks. These monitors shall be arranged in such a way that coverage is provided for all wind directions. The monitors shall have an audible alarm in the control room, and shall be set to alarm at 20 parts per million (ppm).

### Initial Determination of Compliance

21. Sampling ports and platform(s) shall be incorporated into the design of the C4 Boiler Stack (EPN BLR) according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director.
22. The holder of this permit 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 C4 Boiler (EPN BLR). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted

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in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods.

- A. The TCEQ Beaumont Regional Office shall be contacted as soon as testing is scheduled, but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) 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) Procedure used to determine boiler loads during and after the sampling period.

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 submitting the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions, TCEQ, or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Permitting and Registration, Air Permits Division in Austin. Test waivers and alternate or equivalent procedure proposals for NSPS testing which must have the EPA approval shall be submitted to the TCEQ Regional Director.

- B. Air contaminants emitted from the boiler to be tested for include (but are not limited to) NO<sub>x</sub>, CO, sulfur dioxide, and VOC.
- C. Sampling shall occur within 60 days after initial start-up of the facilities and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires the EPA approval, and requests shall be submitted to the TCEQ Regional Director.

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- D. The C4 Boiler shall operate at maximum production/firing rates during stack emission testing. Primary operating parameters that enable determination of production rate shall be monitored and recorded during the stack test. These parameters shall be determined at the pretest meeting and shall be stated in the sampling report. If the plant is unable to operate at maximum rates during testing, then future production rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved.
- E. A copy of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. The report shall be distributed as follows:

One copy to the TCEQ Beaumont Regional Office (**PSD, N**)

### Continuous Determination of Compliance

- 23. The holder of this permit 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 O<sub>2</sub> from the C4 Boiler (EPN BLR).
  - 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 Permitting and Registration, Air Permits Division in Austin for requirements to be met.
  - B. (1) For sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F, the following applies:

The holder of this permit 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 the reason for CEMS downtime as well as measures taken to repair the CEMS when downtime averaged monthly is in excess of 15 percent are to be reported to the TCEQ Regional Director within 7 days. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director. RA

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exceedances are to be reported to the TCEQ Regional Director in writing within 7 days of the permit holder becoming aware of the exceedance.

- (2) For sources not subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F, the following applies:

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, § 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  $\pm 15$  percent accuracy and any CEMS downtime shall be reported to the appropriate TCEQ Regional Director, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director.

Title 40 CFR Part 60, Appendix F applies only to those sources for which an NSPS subpart specifically requires both a continuous monitoring system and that the continuous monitoring system be used to demonstrate compliance with emission limits on a continuous basis.

- C. The monitoring data shall be reduced to hourly average concentrations at least once everyday, 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 rate in lbs/hr and lb/MMBtu at least once everyday and cumulative tpy on a 12-month rolling average at least once every month. At least 23 hourly averages shall be generated per day. The technique used to convert ppmv to mass

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emission rates in lb/MMBtu shall be Method 19. Conversion from lb/MMBtu to pound per hour shall be based on the boilers measured firing rate and the corresponding Btu content of the fuel.

- D. All monitoring data and quality-assurance data shall be maintained by the source for a period of five years and shall be made available to the TCEQ Executive Director or his designated representative upon request. 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 in writing at least 30 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 (facility generating emissions) 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 (facility generating emissions) 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. **(PSD, N)**
24. The NH<sub>3</sub> concentration in the C4 Boiler Stack (EPN BLR) shall be tested or calculated according to the method and frequency listed below:
- A. If a sorbent tube device specific for NH<sub>3</sub> is used, the frequency of the sorbent tube testing shall be daily for the first 60 days of boiler operation, after which, the frequency of the sorbent tube testing may be reduced from daily to weekly after operating procedures have been developed to prevent excess amounts of NH<sub>3</sub> from being introduced in the SCR unit and when operation of the SCR unit has been proven successful with regard to controlling NH<sub>3</sub> slippage. Daily sorbent tube testing shall resume when the catalyst is within 30 days of its useful life expectancy.

For the sorbent tube method, If the measured or calculated NH<sub>3</sub> slip concentration exceeds 5 ppmv at 3 percent O<sub>2</sub> for a consecutive one-hour period, the permit holder shall conduct testing by either the Phenol-Nitroprusside Method or the Indophenol Method on a quarterly basis. The quarterly testing shall continue until such time as the SCR unit catalyst is

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- replaced; or if the quarterly testing indicates NH<sub>3</sub> slip is 3 ppm or less, the phenol-nitroprusside/Indophenol tests may be suspended until sorbent tube testing again indicates 5 ppm NH<sub>3</sub> slip or greater. These results shall be recorded and used to determine compliance with Special Condition No. 16.
- B. As an approved alternative to sorbent tube testing, the permit holder may install and operate a second NO<sub>x</sub> CEMS probe located between the boiler and the SCR, upstream of the stack NO<sub>x</sub> CEMS, which may be used in association with the SCR efficiency, and NH<sub>3</sub> injection rate to estimate NH<sub>3</sub> slip. This condition shall not be construed to set a minimum NO<sub>x</sub> reduction efficiency on the SCR unit.
  - C. Any other method used for measuring NH<sub>3</sub> slippage shall require prior approval from the TCEQ. **(PSD, N)**

### Recordkeeping Requirements

- 25. The following records shall be kept at the plant for the life of the permit. All records required in this permit shall 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.
  - B. Permit application and subsequent representations submitted.
  - C. A complete copy of the testing report and records of the initial performance testing completed pursuant to Special Condition No. 22 to demonstrate initial compliance.
  - D. Stack sampling results or other testing that may be conducted on units authorized under this permit after the date of issuance of this permit. **(PSD, N)**
- 26. In addition to recordkeeping requirements contained in the conditions of this permit, the following information shall be recorded and maintained by the permit holder for a period of five years and shall be maintained at the plant site and made available to a representative of the TCEQ, EPA, or any air pollution control agency with jurisdiction upon request.
  - A. The average hourly NO<sub>x</sub> emissions in lb/MMBtu of heat input for the C4 Boiler (EPN BLR).

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- B. The NO<sub>x</sub>, CO, and O<sub>2</sub> CEMS emissions data to demonstrate compliance with the emission rates listed in the MAERT.
- C. Raw data files of all CEMS data including calibration checks and adjustments and maintenance performed on these systems.
- D. Records of the hours of operation and average daily quantity of natural gas fired in the C4 Boiler.
- E. Records of NH<sub>3</sub> emissions sampling and calculations pursuant to Special Condition No. 24.
- F. Written records of any accidental releases, spills, or venting of NH<sub>3</sub>, and the corrective action taken.
- G. Tank records pursuant to Special Condition No. 6G.
- H. Production rate pursuant to Special Condition No. 5.
- I. Tank TK-9811 temperature readings pursuant to Special Condition No. 7.
- J. Records of NMP tank truck and/or drum loading pursuant to Special Condition No. 8.
- K. Records shall be maintained of the operator walkthrough as required by Special Condition No. 9E. Records shall include date, operator name, time, and a list of components found to be leaking.  
**(PSD, N)**

### Reporting

27. The holder of this permit shall comply with the reporting and recordkeeping requirements of 40 CFR § 60.7. Such reports are required for each emission unit which is required to be continuously monitored pursuant to Special Condition No. 23. Each report shall contain the hours of operation of the facility, a report summary of the periods of non-complying emissions, and CEMS downtimes by cause, in addition to the information specified in 40 CFR § 60.7. Compliance with CO and NO<sub>x</sub> shall be determined during periods of continuous operation. Continuous operations, for this permit condition, does not include start-up and shutdown periods reported under 30 TAC §§ 101.211 that meet the demonstration

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criteria for 30 TAC § 101.222(c). For reporting purposes, non-complying emissions are defined as:

- A. Each one-hour period of operation, except during start-up or shutdown, during which the average emissions of NO<sub>x</sub> and/or CO as measured and recorded by each CEMS, exceed the emission limits of Special Condition No. 16 or the MAERT.
- B. Annual emissions shall be defined as a rolling 12-month period during which the 12-month cumulative emissions of NO<sub>x</sub> and/or CO as measured and recorded by each CEMS, exceed the emission limits specified in the MAERT.
- C. If the average NO<sub>x</sub>, CO, or NH<sub>3</sub> stack outlet concentration for the C4 Boiler exceeds the permitted concentrations identified in Special Condition No. 16, the holder of this permit shall investigate and determine the reason for the exceedance and make necessary repairs to the SCR unit and/or its associated equipment as soon as possible. The holder of this permit will take appropriate steps, as necessary, to ensure the SCR unit is operating in compliance until repairs can be made. This condition does not authorize emission rates above those listed on the MAERT. **(PSD, N)**

### Federal Considerations

28. The following non-attainment offsets are required in this permit.

- A. This Nonattainment New Source Review permit is issued based on the permanent retirement of TCEQ Emission Reduction Credit Certificate (ERCC) No. 2405 for 11.9 TPY of nitrogen oxides (NOX) emissions. This ERCC provides offsets at the rate of 1.3 for the 9.07 TPY of NOX emissions authorized under this permit and ERCC No. 2087 for 13.7 TPY of Volatile Organic Carbon (VOC) emissions. This ERCC provides offsets at the rate of 1.3 for the 10.33 TPY of VOC emissions authorized under this permit.
- B. The holder of this permit provided offsets for VOC and NOx emissions associated with the construction and operation of the C4 Olefins Complex (including the Butadiene Unit, InAlk Unit, and ancillary equipment). Offsets were provided at a ratio of 1.15 to 1 for Jefferson County. Offsets for the C4 Olefin Complex shall total no less than 27.7 TPY VOC and 11.2 TPY NOx, and were obtained from Emission Reduction Credit Certificates 1191, 1193, 1160, and 1233. (N)

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### NH<sub>3</sub> Scrubber

29. Unloading emissions shall be vapor-balanced back to the NH<sub>3</sub> storage tank. The NH<sub>3</sub> tank emissions shall be routed to an Ammonia Scrubber (EPN P-12).
30. The permit holder shall monitor the temperature and flow rate of the water to the Scrubber (EPN P-12) once per shift when unloading NH<sub>3</sub>. A maximum water temperature of 95°F and a minimum water flow rate of seven gallons per minute shall be maintained to demonstrate a minimum of 99 percent removal efficiency. Records of the water flow rate and water temperature shall be maintained for a minimum of five years and shall be made available to the Executive Director of the TCEQ or a representative upon request.

### Maintenance, Start-Up, and Shutdown (MSS) Requirements

31. This permit authorizes the emissions from the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment C) attached this permit.

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

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

The performance of each planned MSS activity not identified in Attachments A or B and the emissions associated with it shall be recorded and include at least the following information:

- A. the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;
- B. the type of planned MSS activity and the reason for the planned activity;

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- C. the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;
- D. the date and time of the MSS activity and its duration;
- E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the 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.

- 32. Process units and facilities, with the exception of those identified in Special Condition No. 38 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

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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 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] or piping and instrumentation diagrams [P&IDs] may be used to demonstrate compliance with the requirement). If the process equipment is purged with a gas, two system volumes of purge gas must have passed through the control device or controlled recovery system before the vent stream may be sampled to verify acceptable VOC concentration prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument meeting the requirements of Special Condition No. 33. 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

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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 No. 32E 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.

- 33. 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:
    - (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.

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- (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.

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\* 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

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of the calibration date/time and calibration result (pass/fail) shall be maintained.

- (2) Within 24 hours prior to using for planned MSS activity monitoring, a functionality test shall be performed on each detector using the same certified gas standard used for calibration. The LEL monitor shall read no lower than 90% of the calibration gas certified value. Records, including the date/time and test results, shall be maintained.
  - (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.
34. 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 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 120 hours. If the repair or replacement is not completed within 120 hours, the permit holder must complete either of the following actions within that time period;
  - A. A cap, blind flange, plug, or second valve must be installed on the line or valve; or
  - B. The open-ended valve or line shall be monitored once at the end of the 120-hour period following the creation of the open-ended line and monthly thereafter with an approved gas analyzer and the results recorded. Leaks are indicated by readings of 500 ppmv above background and must be repaired within 120 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.
35. Each open-ended valve or line resulting from a plant or unit turnaround shall be exempt from the requirements of Special Condition No. 34 and the following shall requirements apply.
  - A. The plant or unit system(s) shall be isolated from feedstock sources using blind flanges to prevent potential feedstock leakage into the plant or unit(s).
  - B. The open-ended valve or line shall be monitored once by the end of the 120 hours period following the creation of the open ended line with an approved gas analyzer and the results recorded. Leaks are indicated by readings of 500 ppmv.

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- C. If a leaking isolation valve is discovered on a flanged line, the leak must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve. Alternatively, within 24 hours, the adjacent unit system may be cleared to a control device so that the VOC concentration in the adjacent system is less 1% of the LEL.
  - D. If a leaking isolation valve is discovered on a welded line the adjacent unit system shall be cleared to a control device so that the VOC concentration within the system is less 1% of the LEL. This clearing shall be completed within 20 days of the leak discovery.
36. 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) If the VOC partial pressure of the liquid in or being transferred to the truck is greater than 0.50 psi at 95°F, the vacuum/blower exhaust shall be routed to a control device or a controlled recovery system.
    - (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, VOC exhaust concentration upon

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commencing each transfer, at the end of each transfer, and at least every hour during each transfer shall be recorded, measured using an instrument meeting the requirements of Special Condition Nos. 33A or 33B.

- 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 Special Condition Nos. 36A through 36D do not apply.
37. This permit authorizes emissions from the following temporary facilities used to support planned MSS activities at permanent site facilities: frac tanks, containers, vacuum trucks and portable devices identified in Special Condition No. 41. Emissions from temporary facilities are authorized provided the temporary facility:
- A. does not remain on the plant site for more than 12 consecutive months;
  - B. is used solely to support planned MSS activities at the permanent site facilities; and
  - C. does not operate as a replacement for an existing authorized facility.
38. The following requirements apply to frac, or temporary, tanks and vessels used in support of MSS activities.
- A. The exterior surfaces of these tanks/vessels that are exposed to the sun shall be white or aluminum effective May 1, 2013. This requirement does not apply to tanks/vessels that only vent to atmosphere when being filled, sampled, gauged, or when removing material.

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- 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 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, 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.
39. Additional occurrences of MSS activities authorized by this permit (see Attachment C) may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.
40. All permanent facilities must comply with all operating requirements, limits, and representations in the permit during planned startup and shutdown unless alternate requirements and limits are identified in this permit. Alternate requirements for emissions from the C4 Boiler Stack are identified below. **(2/13)**
- A. The C4 Boiler Stack is exempt from NO<sub>x</sub>, CO, and NH<sub>3</sub> operating requirements identified in special conditions during planned startup and shutdown if the following criteria are satisfied.
    - (1) The maximum allowable emission rates in the permit authorizing the C4 Boiler Stack are not exceeded.

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A planned start up is defined as the period beginning when fuel is introduced into the boiler and ends when the boiler is firing at 75 percent of the maximum allowable firing rate. Alternately, a planned startup is defined as the period beginning when the boiler exceeds the firing rate limits for turndown as defined in Special Condition No. 16 and ends when the boiler is firing at 75 percent of the maximum allowable firing rate. A planned startup is limited to 8 hours in duration. A planned shutdown shall not exceed 4 hours.

- (3) Control devices are started and operating properly when venting a waste gas stream.
  - (4) A planned startup cannot occur when the boiler is in hot standby mode as defined in Special Condition No. 16B.
- B. A record shall be maintained indicating that the start and end times of each of the activities identified above occur and documentation that the requirements for each have been satisfied.
41. Control devices required by this permit for emissions from planned MSS activities are limited to those types identified in this condition. Control devices shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours. Each device used must meet all the requirements identified for that type of control device.

Controlled recovery systems identified in this permit shall be directed to an operating facility process or to a collection system that is vented through a control device meeting the requirements of this permit condition.

A. Carbon Adsorption System (CAS)

- (1) The CAS shall consist of 2 carbon canisters in series with adequate carbon supply for the emission control operation.
- (2) The CAS shall be sampled down stream of the first can and the concentration recorded at least once every hour of CAS run time to determine breakthrough of the VOC. The sampling frequency may be extended using either of the following methods
  - a. It may be extended to up to 30 percent of the minimum potential saturation time for a new can of carbon. The permit holder shall

## SPECIAL CONDITIONS

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maintain records including the calculations performed to determine the minimum saturation time.

- b. The carbon sampling frequency may be extended to longer periods based on previous experience with carbon control of a MSS waste gas stream. The past experience must be with the same VOC, type of facility, and MSS activity. The basis for the sampling frequency shall be recorded. If the VOC concentration on the initial sample downstream of the first carbon canister following a new polishing canister being put in place is greater than 100 ppmv above background, it shall be assumed that breakthrough occurred while that canister functioned as the final polishing canister and a permit deviation shall be recorded.
- (3) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition Nos. 33A. or 33B.
- (4) Breakthrough is defined as the highest measured VOC concentration at or exceeding 100 ppmv above background. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within four hours. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frame.
- (5) Records of CAS monitoring shall include the following:
  - a. Sample time and date.
  - b. Monitoring results (ppmv).
  - c. Canister replacement log.
- (6) Single canister systems are allowed if the time the carbon canister is in service is limited to no more than 30% of the minimum potential saturation time. The permit holder shall maintain records for these systems, including the calculations performed to determine the saturation time. The time limit on carbon canister service shall be recorded and the expiration date attached to the carbon can.

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- B. The plant flare system.
    - (1) The heating value and velocity requirements in 40 CFR 60.18 shall be satisfied during operations authorized by this permit.
    - (2) The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.
    - (3) The permit holder shall comply with Special Condition Nos. 11 and 12 at all times, including while venting emissions from MSS activities to the flares.
42. The following requirements apply to capture systems for the plant flare system.
- A. Either 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 verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21 once a year. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.
  - B. The control device shall not have a bypass.
  - C. The date and results of each inspection performed shall be recorded. If the results of any inspection are not satisfactory, the deficiencies shall be recorded and the permit holder shall promptly take necessary corrective action, recording each action with the date completed.
43. With the exception of the MAERT emission limits, these permit conditions become effective 180 days after this permit has been issued. During this period, monitoring and recordkeeping shall satisfy the requirements Special Condition Nos. 31A through 31D. Emissions shall be estimated using good engineering practice and methods to provide reasonably accurate representations for emissions. The basis used for determining the quantity of air contaminants to be emitted shall be recorded. The permit holder may maintain abbreviated records of emissions from Attachment A and B activities as allowed in Special Condition No. 31 rather than documenting all the information required by Special Condition No. 31, parts A through D.

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44. Any MSS activities not identified in Attachments A, B or C are not authorized by this permit.
45. Planned maintenance activities must be conducted in a manner consistent with good practice for minimizing emissions, including the use of air pollution control equipment, practices and processes. All reasonable and practical efforts to comply with Special Conditions Nos. 31 through 44 must be used when conducting the planned maintenance activity, until the commission determines that the efforts are unreasonable or impractical, or that the activity is an unplanned maintenance activity.

Dated: February 8, 2013

ATTACHMENT A

Permit Numbers 41945, PSDTX950, and N018

INHERENTLY LOW EMITTING ACTIVITIES

Activity	Emissions				
	VOC	NOx	CO	PM	H <sub>2</sub> S/SO <sub>2</sub>
Maintenance Chemicals/Lubricants	X			X	
Replace analyzer filters	X				
Calibrate analyzers	X				
Analyzer purging	X				
Sample purging	X				
Sample media changing	X				
Pipeline pigging	X				
Instrumentation maintenance	X				
Carbon canister replacement	X				
Drain equipment to controlled sewer	X				

Dated: December 22, 2011

ATTACHMENT B

Permit Numbers 41945, PSDTX950, and N018

ROUTINE MAINTENANCE ACTIVITIES

Piping Repair

Valve Maintenance

Flange and Connector Repair

Catalyst Loading

Filter Changes

Repair and Replacement of Pumps, Mixers, Compressors, Exchangers, Vessels, and Towers where the process volume to be emptied and degassed is less than 50 ft<sup>3</sup>

Dated: December 22, 2011

ATTACHMENT C

Permit Numbers 41945, PSDTX950, and N018

MSS Activity Summary

<b>Facilities</b>	<b>Description</b>	<b>Emissions Activity</b>	<b>EPN</b>
all process equipment	complex shutdown and restart (Turn Around Caps)	vent to high/low pressure flare	P-7 / P-6
all process equipment	depressurization and degassing (MSS Caps)	vent to high pressure flare	P-7
all process equipment	opening after degassing to control (Turn Around Cap - Non-Flared)	vent to atmosphere	TA CAP
all process equipment	opening after degassing to control (MSS Cap - Non-Flared)	vent to atmosphere	MSS CAP
Vacuum Trucks	vacuum truck filling or pulling vacuum less than 0.5 psia	vent to atmosphere	TA Cap/MSS Cap
Vacuum Trucks	vacuum truck filling or pulling vacuum greater than or equal to 0.5 psia	controlled by carbon canister	TA Cap/MSS Cap
Frac Tanks	filling with vapor pressure less than 0.5 psia	vent to atmosphere	TA Cap/MSS Cap
Frac Tanks	filling with vapor pressure greater than or equal to 0.5 psia	controlled by carbon adsorption system	TA Cap/MSS Cap
Frac Tanks	breathing losses	vent to atmosphere	TA Cap/MSS Cap
Attachment A Activities			MSS Cap
Attachment B Activities			MSS/TA Cap

Dated: December 22, 2011

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit Numbers 41945, PSDTX950, and N018M1

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. 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 *	
			lb/hr	TPY
P-3	Product Inhibitor Tank Vent	VOC (5)	0.01	0.01
P-6	Low-Pressure Flare	VOC (5)	165.69	2.49
		NO <sub>x</sub> (5)	10.28	2.93
		CO (5)	70.21	15.14
		SO <sub>2</sub> (5)	1.55	0.58
		H <sub>2</sub> S	0.02	0.01
P-7	High-Pressure Flare	VOC (5)	139.92	32.28
		NO <sub>x</sub> (5)	12.02	8.31
		CO (5)	61.25	42.34
		SO <sub>2</sub> (5)	13.77	1.30
		H <sub>2</sub> S	0.13	0.01
TK-9804	Storm Water Tank	VOC (5)	0.69	0.37
CT	Cooling Tower	VOC (5)	10.70	13.43
		PM <sub>10</sub> (5)	2.31	6.72
ALKFUG	Fugitives InAlk Unit (4)	VOC (5)	0.64	2.80
BDEFUG	Fugitives Butadiene Unit (4)	VOC (5)	0.92	4.04
UTILFUG	Utility Fugitives (4)	VOC (5)	0.96	4.20
P-10	Tank Truck Loading	VOC (5)	0.22	0.01
BLR	Boiler	VOC (5)	1.22	5.32
		NO <sub>x</sub> (5)	4.86	7.45
		CO (5)	17.75	77.76
		PM <sub>10</sub> (5)	1.46	6.39
		SO <sub>2</sub> (5)	3.46	15.13
		NH <sub>3</sub>	0.75	3.30

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
NH3FUGST	Fugitives-Ammonia Storage (4)	NH <sub>3</sub>	0.01	0.01
NH3FUGSKID	Fugitives-Injection Skid (4)	NH <sub>3</sub>	0.01	0.01
P12	Ammonia Scrubber	NH <sub>3</sub>	0.12	0.12

MAINTENANCE, STARTUP, AND SHUTDOWN EMISSIONS

P-7	High-Pressure Flare Turnaround Cap	VOC	-	14.35
		NO <sub>x</sub>	-	1.15
		CO	-	5.85
		SO <sub>2</sub>	-	0.04
		H <sub>2</sub> S	-	0.01
P-7	High-Pressure Flare MSS Cap	VOC	-	27.00
		NO <sub>x</sub>	-	4.43
		CO	-	22.58
		SO <sub>2</sub>	-	0.75
		H <sub>2</sub> S	-	0.01
P-7	High-Pressure Flare Turnaround and MSS Short-Term Cap	VOC	1,114.39	-
		NO <sub>x</sub>	74.13	-
		CO	377.72	-
		SO <sub>2</sub>	5.26	-
		H <sub>2</sub> S	0.06	-
P-6	Low-Pressure Flare Turnaround Cap	VOC	169.65	1.36
		NO <sub>x</sub>	11.20	0.09
		CO	57.09	0.46
TA CAP	Turnaround Cap (Non-Flare)	VOC	22.17	1.21
		PM	0.35	0.52
		PM <sub>10</sub>	0.35	0.52
		PM <sub>2.5</sub>	0.35	0.52

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
MSS CAP	MSS Cap (Non-Flare)	VOC	14.42	1.94
		PM	0.47	0.36
		PM <sub>10</sub>	0.41	0.36
		PM <sub>2.5</sub>	0.36	0.36

- (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> - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.  
PM<sub>2.5</sub> - particulate matter (PM) equal to or less than 2.5 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 2.5 microns is emitted.  
CO - carbon monoxide  
NH<sub>3</sub> - ammonia  
H<sub>2</sub>S - hydrogen sulfide
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) These emissions are permitted under prevention of significant deterioration or nonattainment review in addition to State.

\* Emission rates are based on and the facilities are limited by the following maximum operating schedule:

\_\_\_ Hrs/day \_\_\_ Days/week \_\_\_ Weeks/year or 8,760 Hrs/year

\*\* Compliance with the annual limits is based on a rolling 12-month period.

Dated: July 7, 2011