

# FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO  
Phillips 66 Company

AUTHORIZING THE OPERATION OF  
Borger Refinery  
Methyl Mercaptan Plant  
Petroleum Refineries

LOCATED AT  
Hutchinson County, Texas  
Latitude 35° 43' 14" Longitude 101° 25' 21"  
Regulated Entity Number: RN102495884

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:       O2166       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, Subpart F, G and H as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113,

Subchapter C, §§ 113.110, 113.120 and 113.130, respectively, which incorporate the 40 CFR Part 63 Subparts by reference.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
  - A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
  - B. Title 30 TAC § 101.3 (relating to Circumvention)
  - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
  - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
  - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
  - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
  - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
  - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
  - I. Title 30 TAC § 101.222 (relating to Demonstrations)
  - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
  - A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1, shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:
    - (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
    - (ii) Title 30 TAC § 111.111(a)(1)(E)
    - (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
    - (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that

does not obstruct the transmission of light. Vents, as specified in the “Applicable Requirements Summary” attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

- (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer’s eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.
- (5) Compliance Certification:
  - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
  - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is

determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

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

- (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)
- (iii) For a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source subject to 30 TAC § 111.111(a)(7)(A), complying with 30 TAC § 111.111(a)(7)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
  - (1) An observation of visible emissions from a building containing an air emission source, enclosed facility, or other structure containing or associated with an air emission source which is required to comply with 30 TAC § 111.111(a)(7)(A) shall be conducted at least once during each calendar quarter unless the air emission source or enclosed facility is not operating for the entire quarter.
  - (2) Records of all observations shall be maintained.
  - (3) Visible emissions observations of air emission sources or enclosed facilities operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of air emission sources or enclosed facilities operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each emissions outlet in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each emissions outlet during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

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

C. For visible emissions from all other sources not specified in 30 TAC § 111.111(a)(1), (4), or (7); the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(8)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(8)(B)(i) or (ii)
- (iii) For a source subject to 30 TAC § 111.111(a)(8)(A), complying with 30 TAC § 111.111(a)(8)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO<sub>x</sub>, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146:
  - (1) An observation of visible emissions from a source which is required to comply with 30 TAC § 111.111(a)(8)(A) shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter.
  - (2) Records of all observations shall be maintained.
  - (3) Visible emissions observations of sources operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of sources operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each source during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer

visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

- (4) Compliance Certification:
- (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A)
  - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(8)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

- D. 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.
  - E. 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. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.
5. 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).

6. For the chemical manufacturing facilities subject to leak detection requirements in 40 CFR Part 63, Subpart G, the permit holder shall comply with the following requirements (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):
  - A. General Leak Detection Requirements:
    - (i) Title 40 CFR § 63.148(d)(1) - (3), and (e) (relating to Leak Inspection Provisions)
    - (ii) Title 40 CFR § 63.148(c), (g), (g)(2), (h), and (h)(2) (relating to Leak Inspection Provisions), for monitoring and testing requirements
    - (iii) Title 40 CFR §§ 63.148(g)(2), (h)(2), (i)(1) - (2), (i)(4)(i) - (viii), (i)(5), and 63.152(a)(1) - (5), for recordkeeping requirements
    - (iv) Title 40 CFR §§ 63.148(j), 63.151(a)(6)(i) - (iii), (b)(1) - (2), (j)(1) - (3), 63.152(a)(1) - (5), (b), (b)(1)(i) - (ii), and (b)(4), for reporting requirements
  - B. For closed vent system or vapor collection systems constructed of hard piping:
    - (i) Title 40 CFR § 63.148(b)(1)(ii) (relating to Leak Inspection Provisions), for monitoring and testing requirements
    - (ii) Title 40 CFR § 63.148(i)(6) (relating to Leak Inspection Provisions), for recordkeeping requirements

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

7. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule (including the permits by rule identified in the PBR Supplemental Tables in the application), 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
8. 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.
9. 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**

10. 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.
11. 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**

12. 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.

### **Permit Location**

13. 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)**

14. 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**

**Permit Shield**

**New Source Review Authorization References**

## **Applicable Requirements Summary**

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

**Applicable Requirements Summary ..... 13**

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/<br>Process ID No. | Unit Type                            | Group/Inclusive<br>Units | SOP Index No. | Regulation                | Requirement Driver      |
|-------------------------------|--------------------------------------|--------------------------|---------------|---------------------------|-------------------------|
| F-U45                         | FUGITIVE EMISSION<br>UNITS           | N/A                      | 63H           | 40 CFR Part 63, Subpart H | No changing attributes. |
| PROU45                        | CHEMICAL<br>MANUFACTURING<br>PROCESS | N/A                      | 63F HON-      | 40 CFR Part 63, Subpart F | No changing attributes. |
| T-0520                        | STORAGE<br>TANKS/VESSELS             | N/A                      | 63G TIFR      | 40 CFR Part 63, Subpart G | 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)  |
|---------------------------|-------------------------|---------------|----------------|---------------------------------------|--|---|---|--|--|
| F-U45                     | EU                      | 63H           | 112(B)<br>HAPS | 40 CFR Part 63, Subpart H             | § 63.172(d)<br>§ 63.11(b)<br>§ 63.172(e)<br>[G]§ 63.172(h)<br>§ 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)<br>[G]§ 63.172(h)<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)<br>[G]§ 63.180(e) | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)<br>§ 63.181(g)<br>§ 63.181(g)(1)(i)<br>§ 63.181(g)(1)(ii)<br>§ 63.181(g)(1)(iii)<br>§ 63.181(g)(1)(iv)<br>[G]§ 63.181(g)(2)         | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45                     | EU                      | 63H           | 112(B)<br>HAPS | 40 CFR Part 63, Subpart H             | [G]§ 63.168<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171<br>[G]§ 63.175 | Standards: Valves in gas/vapor service and in light liquid service. §63.168(a)-(j)                                | [G]§ 63.168<br>[G]§ 63.175<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)                      | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)<br>§ 63.181(h)<br>[G]§ 63.181(h)(1)<br>[G]§ 63.181(h)(2)<br>§ 63.181(h)(4)<br>[G]§ 63.181(h)(5)<br>§ 63.181(h)(6)<br>§ 63.181(h)(7) | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45                     | EU                      | 63H           | 112(B)<br>HAPS | 40 CFR Part 63, Subpart H             | [G]§ 63.165<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171                                  | Standards: Pressure relief device in gas/vapor service. §63.165(a)-(d)  | [G]§ 63.165<br>[G]§ 63.180(b)<br>[G]§ 63.180(c)<br>[G]§ 63.180(d)                   | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(f)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45                     | EU                      | 63H           | 112(B)<br>HAPS | 40 CFR Part 63, Subpart H             | [G]§ 63.166<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171                                  | Standards: Sampling connection systems. §63.166(a)-(c)  | [G]§ 63.180(b)<br>[G]§ 63.180(d)  | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45                     | EU                      | 63H           | 112(B)<br>HAPS | 40 CFR Part 63, Subpart H             | [G]§ 63.169<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)  | Standards: Instrumentation systems. §63.169(a)-(d)  | [G]§ 63.169<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)                                     | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)                                     |

|       |    |     |                |                              |   |  |   |  |  |
|-------|----|-----|----------------|------------------------------|---|--|---|--|--|
|       |    |     |                |                              | [G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171  |  |   |  | § 63.182(c)(4)<br>[G]§ 63.182(d)   |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | [G]§ 63.169<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171 | Standards: Pressure relief<br>devices in liquid service.<br>§63.169(a)-(d)   | [G]§ 63.169<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)   | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | § 63.170<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171                      | Standards: Surge control<br>vessels and bottom<br>receivers.   | [G]§ 63.180(b)<br>[G]§ 63.180(d)  | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | [G]§ 63.173<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171 | Standards: Agitators<br>gas/vapor service and in<br>light liquid service.<br>§63.173(a)-(j).   | [G]§ 63.173<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)   | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | [G]§ 63.174<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171 | Standards: Connectors in<br>gas/vapor service and in<br>light liquid service.<br>§63.174(a)-(j)  | [G]§ 63.174<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)   | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | § 63.172(a)<br>[G]§ 63.172(h)<br>§ 63.172(i)<br>§ 63.172(m)   | Owners/operators of closed-<br>vent systems and control<br>devices used to comply with<br>provisions of this subpart<br>shall comply with the<br>provisions of this section,<br>except as provided in<br>§63.162(b). | [G]§ 63.172(f)(1)<br>[G]§ 63.172(f)(2)<br>§ 63.172(g)<br>[G]§ 63.172(h)<br>[G]§ 63.172(k)<br>[G]§ 63.172(l)<br>[G]§ 63.180(b)<br>[G]§ 63.180(d) | [G]§ 63.172(k)<br>[G]§ 63.172(l)<br>§ 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)<br>§ 63.181(g)<br>§ 63.181(g)(1)(i)<br>§ 63.181(g)(1)(ii)<br>[G]§ 63.181(g)(2)<br>[G]§ 63.181(g)(3) | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |
| F-U45 | EU | 63H | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | [G]§ 63.163<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(f)<br>[G]§ 63.162(g)<br>§ 63.162(h)                | Standards: Pumps in light<br>liquid service. §63.163(a)-(j)  | [G]§ 63.163<br>[G]§ 63.176<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)  | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>[G]§ 63.181(d)<br>§ 63.181(h)<br>[G]§ 63.181(h)(3)   | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d) |

|        |     |          |                |                              |  |   |   |  |  |
|--------|-----|----------|----------------|------------------------------|--|---|---|--|--|
|        |     |          |                |                              | [G]§ 63.171<br>[G]§ 63.176   |   |   | § 63.181(h)(4)<br>[G]§ 63.181(h)(5)<br>§ 63.181(h)(6)<br>§ 63.181(h)(7)<br>§ 63.181(h)(8)  |  |
| F-U45  | EU  | 63H      | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart H | [G]§ 63.167<br>§ 63.162(a)<br>§ 63.162(c)<br>[G]§ 63.162(g)<br>§ 63.162(h)<br>[G]§ 63.171<br>[G]§ 63.175   | Standards: Open-ended<br>valves or lines. §63.167(a)-<br>(e).   | [G]§ 63.175<br>[G]§ 63.180(b)<br>[G]§ 63.180(d)   | § 63.181(a)<br>[G]§ 63.181(b)<br>§ 63.181(c)<br>§ 63.181(h)<br>[G]§ 63.181(h)(1)<br>[G]§ 63.181(h)(2)<br>§ 63.181(h)(4)<br>[G]§ 63.181(h)(5)<br>§ 63.181(h)(6)<br>§ 63.181(h)(7) | [G]§ 63.182(a)<br>[G]§ 63.182(b)<br>§ 63.182(c)<br>[G]§ 63.182(c)(1)<br>§ 63.182(c)(4)<br>[G]§ 63.182(d)   |
| PROU45 | PRO | 63F HON- | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart F | § 63.100(b)<br>[G]§ 63.102(a)<br>[G]§ 63.102(c)<br>§ 63.105(d)   | Except as provided in<br>paragraphs (b)(4) and (c) of<br>this section, the provisions<br>of subparts F, G, and H<br>apply to chemical<br>manufacturing process units<br>that meet the criteria. | § 63.103(b)(1)<br>§ 63.103(b)(3)<br>§ 63.103(b)(4)<br>[G]§ 63.103(b)(5)<br>§ 63.103(b)(6) | [G]§ 63.103(c)<br>[G]§ 63.105(b)<br>§ 63.105(c)<br>§ 63.105(e)   | § 63.103(b)(2)<br>[G]§ 63.103(b)(5)<br>[G]§ 63.103(d)  |
| T-0520 | EU  | 63G TIFR | 112(B)<br>HAPS | 40 CFR Part 63,<br>Subpart G | § 63.119(b)<br>§ 63.119(a)(1)<br>[G]§ 63.119(b)(1)<br>§ 63.119(b)(2)<br>§ 63.119(b)(3)(ii)<br>§ 63.119(b)(4)<br>§ 63.119(b)(5)(i)<br>§ 63.119(b)(5)(ii)<br>§ 63.119(b)(5)(iii)<br>§ 63.119(b)(5)(iv)<br>§ 63.119(b)(5)(v)<br>§ 63.119(b)(5)(vi)<br>§ 63.119(b)(5)(vii)<br>[G]§<br>63.119(b)(5)(viii)<br>§ 63.119(b)(6)<br>§ 63.120(a)(4)<br>§ 63.120(a)(7) | Tanks using a fixed roof and<br>an internal floating roof<br>(defined in §63.111) to<br>comply with §63.119(a)(1)<br>must comply with:<br>§63.119(b)(1)-(6).                                    | § 63.120(a)(2)(i)<br>§ 63.120(a)(2)(ii)   | § 63.120(a)(4)<br>§ 63.123(a)<br>§ 63.123(c)<br>§ 63.123(g)<br>[G]§ 63.152(a)  | § 63.120(a)(5)<br>§ 63.120(a)(6)<br>§ 63.122(d)<br>§ 63.122(d)(1)(ii)<br>§ 63.122(d)(1)(iii)<br>§ 63.122(d)(2)(ii)<br>§ 63.151(a)(7)<br>[G]§ 63.151(b)<br>[G]§ 63.151(j)<br>[G]§ 63.152(a)<br>§ 63.152(b)<br>[G]§ 63.152(b)(1)<br>§ 63.152(b)(4)<br>§ 63.152(c)(1)<br>§ 63.152(c)(2)<br>§ 63.152(c)(4)(ii) |

**Permit Shield**

**Permit Shield ..... 18**

### Permit Shield

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

| Unit / Group / Process ID No. | Group / Inclusive Units | Regulation                  | Basis of Determination  |
|-------------------------------|-------------------------|-----------------------------|---|
| F-54-C10                      | N/A                     | 40 CFR Part 63, Subpart Q   | Not operated with Chromium-based water treatment after September 8, 1994.   |
| F-U45                         | N/A                     | 40 CFR Part 60, Subpart VV  | Equipment which is subject to both 40 CFR Part 63, Subpart H and the provisions of 40 CFR Part 60 are required to comply only with the provisions of Part 63, Subpart H |
| U45-COL                       | N/A                     | 40 CFR Part 60, Subpart NNN | Not producing chemicals listed in 60.667. [60NNN_NOSOCMI]   |
| U46                           | N/A                     | 40 CFR Part 60, Subpart NNN | Not producing chemicals listed in 60.667. [60NNN_NOSOCMI]   |

**New Source Review Authorization References**

**New Source Review Authorization References..... 20**

**New Source Review Authorization References by Emission Unit..... 21**

### 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>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.: 71385  | Issuance Date: 03/31/2017    |
| <b>Permits By Rule (30 TAC Chapter 106) for the Application Area</b>  |                              |
| Number: 106.373   | Version No./Date: 09/04/2000 |

**New Source Review Authorization References by Emissions Unit**

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

| Unit/Group/Process ID No. | Emission Unit Name/Description          | New Source Review Authorization** |
|---------------------------|---|-----------------------------------|
| F-54-C10                  | COOLING WATER                           | 71385                             |
| F-U45                     | PIPING COMPONENT/FUGITIVE               | 71385                             |
| PROU45                    | MESH/DMS PRODUCTION PROCESS             | 71385                             |
| T-0520                    | STORAGE VESSEL                          | 71385                             |
| U45-COL                   | MESH/DMS PRODUCTION EQUIPMENT (COLUMNS) | 71385                             |
| U46                       | DMS PURIFICATION EQUIPMENT              | 71385                             |

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

**Appendix A**

**Acronym List..... 23**

## Acronym List

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

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