FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO

BASF TOTAL Petrochemicals LLC

AUTHORIZING THE OPERATION OF

Ethylene / Propylene Cracker and Cogeneration
Industrial Organic Chemicals

LOCATED AT

Jefferson County, Texas

Latitude 29° 57' 10" Longitude 93° 53' 6"

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: O2551 Issuance Date: _____

_____
For the Commission

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General Terms and Conditions

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

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

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

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

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

Special Terms and Conditions:
Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting

1. Permit holder shall comply with the following requirements:

    A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.

    B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.

E. Emission units subject to 40 CFR Part 63, Subparts F, G, H, YY or DDDDD as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, §§ 113.110, 113.120, 113.130, 113.560 or 113.1130 which incorporates the 40 CFR Part 63 Subpart by reference.

2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements

B. Title 30 TAC § 101.3 (relating to Circumvention)

C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ

D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ

E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)

F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)

G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)

H. Title 30 TAC § 101.221 (relating to Operational Requirements)

I. Title 30 TAC § 101.222 (relating to Demonstrations)

J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)

3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:

A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

(i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)

(ii) Title 30 TAC § 111.111(a)(1)(E)

(iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)

(iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_x, the permit holder shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the "Applicable Requirements Summary" attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

(1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.

(2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum

required value does not constitute creation of an alternative fuel.

(3) Records of all observations shall be maintained.

(4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(5) Compliance Certification:

(a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).

(b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance,

the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

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

B. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.

C. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).

D. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:

(i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

(ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)

(iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)

E. Permit holder shall comply with the following requirements for steam generators:

(i) Emissions from any oil or gas fuel-fired steam generator with a heat input capacity greater than 2,500 MMBtu per hour may not exceed 0.1 pound of TSP per MMBtu of heat input, averaged over a two-hour period, as required in 30 TAC § 111.153(c) (relating to Emissions Limits for Steam Generators).

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)(1) (relating to Standards: General)

   C. Title 40 CFR § 61.342(e)(2)(i) - (ii) (relating to Standards: General)

   D. Title 40 CFR § 61.342(f)(1), and (2) (relating to Standards: General)

   E. Title 40 CFR § 61.342(g) (relating to Standards: General)

   F. Title 40 CFR § 61.350(a) and (b) (relating to Standards: Delay of Repair)

   G. Title 40 CFR § 61.355(a)(1)(iii), (a)(2), (a)(6), (b), and (c)(1) - (3) (relating to Test Methods, Procedures, and Compliance Provisions)

   H. Title 40 CFR § 61.355(k)(1) - (6), and (7)(i) - (iv) (relating to Test Methods, Procedures, and Compliance Provisions), for calculation procedures

   I. Title 40 CFR § 61.356(a) (relating to Recordkeeping Requirements)

   J. Title 40 CFR § 61.356(b), and (b)(1) (relating to Recordkeeping Requirements)

   K. Title 40 CFR § 61.356(b)(4) (relating to Recordkeeping Requirements)

   L. Title 40 CFR § 61.356(b)(5) (relating to Recordkeeping Requirements)

   M. Title 40 CFR § 61.356(c) (relating to Recordkeeping Requirements)

   N. Title 40 CFR § 61.357(a), (d)(1), (d)(2) (d)(6) and (d)(8) (relating to Reporting Requirements)

   O. Title 40 CFR § 61.357(d)(5) (relating to Reporting Requirements)

8. For facilities with containers subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:

   A. Title 40 CFR § 61.345(a)(1) - (3), (b), and (c) (relating to Standards: Containers)

   B. Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)

   C. Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)

D. Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)

9. For facilities with individual drain systems subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:

   A. Title 40 CFR § 61.346(b)(1), (2), (2)(i), (3), (4)(i) - (iv), and (5) (relating to Standards: Individual Drain Systems)

   B. Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)

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

11. For 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).

12. For the chemical manufacturing facilities with a 40 CFR Part 63, Subpart G Group 1 or Group 2 wastewater streams that are also subject to 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):

   A. Title 40 CFR § 63.110(e)(1)(i) and (e)(1)(ii) (relating to Applicability), for 40 CFR Part 63, Subpart G applicability to Group 1 or 2 Wastewater Streams

13. 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)(i) (relating to Process Wastewater Provisions - General)

   B. Title 40 CFR § 63.146(b)(1) (relating to Process Wastewater Provisions - Reporting)

   C. Title 40 CFR § 63.147(b)(8) (relating to Process Wastewater Provisions - Recordkeeping)

14. For the transfer of Group 1 wastewater streams or residuals from Group 1 wastewater streams the permit holder shall comply with the following requirements:

   A. Title 40 CFR § 63.132(g) (relating to Process Wastewater Provisions - General)

B. Title 40 CFR § 63.152(b)(5) and (c)(4)(iv) (relating to General Reporting and Continuous Records)

15. 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

16. For the chemical manufacturing facilities subject to transfer operations 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. Title 40 CFR § 63.126(e)(1) - (2), and (f) (relating to Transfer Operations Provisions Reference Control Technology)

B. Title 40 CFR § 63.128(f)(1) - (2) (relating to Transfer Operations Provisions - Test Methods and Procedures)

C. Title 40 CFR § 63.130(e) (relating to Transfer Operations Provisions - Periodic Recordkeeping and Reporting)

17. For the chemical manufacturing facilities subject to wastewater operations 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. Title 40 CFR § 63.135(a) - (f) (relating to Process Wastewater Provisions - Containers)

B. Title 40 CFR § 63.136(a) (relating to Process Wastewater Provisions - Individual Drain Systems)

C. Title 40 CFR § 63.136(b) - (d) (relating to Process Wastewater Provisions - Individual Drain Systems)

D. Title 40 CFR § 63.136(e) - (g) (relating to Process Wastewater Provisions - Individual Drain Systems)

18. For the chemical manufacturing facilities subject to requirements of certain liquid streams 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. Title 40 CFR § 63.149(a), for control requirements

B. Title 40 CFR § 63.152(a)(1) - (5) (relating to General Reporting and Continuous Records)

C. Title 40 CFR §§ 63.151(a)(6)(i) - (v), (b)(1) - (2), (j)(1) - (3), 63.152(a)(1) - (5), (b), (b)(1)(i) - (ii), (b)(4) (relating to Initial Notification)

19. For transfer of waste from ethylene production facilities subject to 40 CFR Part 63, Subpart YY the permit holder shall comply with the following requirements (Title 30 TAC Chapter 113, Subchapter C, § 113.560 incorporated by reference):

A. Title 40 CFR § 63.1096(a) - (d) (Title 30 TAC Chapter 113, Subchapter C, § 113.550 incorporated by reference)

B. Title 40 CFR § 63.1109(a) and (c)

C. For facilities with waste managed in individual drain systems the permit holder shall comply with the following requirements:

(i) Title 40 CFR § 61.346(b)(1), (2), (2)(i), (3), (4)(i) - (iv), and (5) (relating to Standards: Individual Drain Systems)

20. For benzene laden waste streams from ethylene process facilities subject to 40 CFR Part 63, Subpart YY with total annual benzene quantity from the facility of 10 megagrams per year or more the permit holder shall comply with the following requirements as specified in 40 CFR § 63.1095(b)(3) (Title 30 TAC Chapter 113, Subchapter C, § 113.560 incorporated by reference):

A. For facilities with waste managed in containers the permit holder shall comply with the following requirements:

(i) Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)

(ii) Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)

(iii) Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)

B. For facilities with waste managed in individual drain systems the permit holder shall comply with the following requirements:

(i) Title 40 CFR § 61.346(b)(1), (2), (2)(i), (3), (4)(i) - (iv), and (5) (relating to Standards: Individual Drain Systems)

Additional Monitoring Requirements

21. 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.

22. 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

23. 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

24. 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.

25. 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 periods 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, material safety data sheets (MSDS), 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.

A. If applicable, monitoring of control device performance or general work practice standards shall be made in accordance with the TCEQ Periodic Monitoring Guidance document.

B. 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).

26. The permit holder shall comply with the following requirements for Air Quality Standard Permits:

A. Registration requirements listed in 30 TAC § 116.611, unless otherwise provided for in an Air Quality Standard Permit

B. General Conditions listed in 30 TAC § 116.615, unless otherwise provided for in an Air Quality Standard Permit

C. Applicable requirements of 30 TAC § 116.617 for Pollution Control Projects based on the information contained in the registration application.

Compliance Requirements

27. 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.

28. 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

29. 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

30. 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

Risk Management Plan

31. 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

32. 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)

33. 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 18

Applicable Requirements Summary 31

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
B-7240	Boilers/Steam Generators/Steam Generating Units	N/A	60Db-A	40 CFR Part 60, Subpart Db	No changing attributes.
B-7240	Boilers/Steam Generators/Steam Generating Units	N/A	63DDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.
B-7280	Boilers/Steam Generators/Steam Generating Units	N/A	60Db-B	40 CFR Part 60, Subpart Db	No changing attributes.
B-7280	Boilers/Steam Generators/Steam Generating Units	N/A	63DDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.
B-7290	Boilers/Steam Generators/Steam Generating Units	N/A	60Db-B	40 CFR Part 60, Subpart Db	No changing attributes.
B-7290	Boilers/Steam Generators/Steam Generating Units	N/A	63DDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.
GRPHRSG	Boilers/Steam Generators/Steam Generating Units	HRSG-1, HRSG-2	60Db-B	40 CFR Part 60, Subpart Db	No changing attributes.
N-12	Boilers/Steam Generators/Steam Generating Units	N/A	63DDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.
N-13	Boilers/Steam Generators/Steam	N/A	63DDDDD	40 CFR Part 63, Subpart DDDDD	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	Generating Units				
F-2	Chemical Manufacturing Process	N/A	63F	40 CFR Part 63, Subpart F	No changing attributes.
F-2A	Chemical Manufacturing Process	N/A	63F	40 CFR Part 63, Subpart F	No changing attributes.
N-22	Closed Vent System And Control Device	N/A	61FF-3	40 CFR Part 61, Subpart FF	No changing attributes.
X-5702	Closed Vent System And Control Device	N/A	61FF-2	40 CFR Part 61, Subpart FF	No changing attributes.
X-8501	Closed Vent System And Control Device	N/A	61FF-1	40 CFR Part 61, Subpart FF	No changing attributes.
X-8502	Closed Vent System And Control Device	N/A	61FF-1	40 CFR Part 61, Subpart FF	No changing attributes.
T-3101	Distillation Operations	N/A	60NNN-G	40 CFR Part 60, Subpart NNN	No changing attributes.
T-5702	Distillation Operations	N/A	60NNN-B1	40 CFR Part 60, Subpart NNN	No changing attributes.
T-5702	Distillation Operations	N/A	60NNN-B2	40 CFR Part 60, Subpart NNN	No changing attributes.
N-10	Emission Points/Stationary Vents/Process Vents	N/A	R5121-G	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
N-15	Emission Points/Stationary	N/A	R5121-A	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	Vents/Process Vents				
N-15A	Emission Points/Stationary Vents/Process Vents	N/A	R5121-A	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
N-16	Emission Points/Stationary Vents/Process Vents	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
N-19	Emission Points/Stationary Vents/Process Vents	N/A	R5121-D	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
N-19	Emission Points/Stationary Vents/Process Vents	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.
N-20A	Emission Points/Stationary Vents/Process Vents	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
N-20B	Emission Points/Stationary Vents/Process Vents	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
N-22	Emission Points/Stationary Vents/Process Vents	N/A	R5121-P	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
N-22	Emission Points/Stationary Vents/Process Vents	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.
N-24A	Emission	N/A	R111-1	30 TAC Chapter 111, Visible	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	Points/Stationary Vents/Process Vents			Emissions	
N-24B	Emission Points/Stationary Vents/Process Vents	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
N-9	Emission Points/Stationary Vents/Process Vents	N/A	R111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
T-5702	Emission Points/Stationary Vents/Process Vents	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.
T-5703	Emission Points/Stationary Vents/Process Vents	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.
X-8501	Flares	N/A	R1111-A	30 TAC Chapter 111, Visible Emissions	No changing attributes.
X-8502	Flares	N/A	R1111-A	30 TAC Chapter 111, Visible Emissions	No changing attributes.
X-8502	Flares	N/A	60A-1	40 CFR Part 60, Subpart A	ADHER TO HEAT CONT SPEC = Adhering to the requirements in 40 CFR § 60.18(c)(3)(i).
X-8502	Flares	N/A	60A-2	40 CFR Part 60, Subpart A	FLARE ASSIST TYPE = Steam-assisted, FLARE EXIT VELOCITY = Flare exit velocity is less than 60 ft/s (18.3 m/sec), ADHER TO HEAT CONT SPEC

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					= Adhering to the heat content specifications in 40 CFR § 60.18(c)(3)(ii) and the maximum tip velocity specifications in 40 CFR § 60.18(c)(4).
X-8502	Flares	N/A	63A-1	40 CFR Part 63, Subpart A	HEAT CONTENT SPEC = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(i).
X-8502	Flares	N/A	63A-2	40 CFR Part 63, Subpart A	HEAT CONTENT SPEC = Adhering to the heat content specifications in 40 CFR § 63.11(b)(6)(ii) and the maximum tip velocity specifications in 40 CFR § 63.11(b)(7) or 40 CFR § 63.11(b)(8)., FLARE ASSIST TYPE = Steam assisted, FLARE EXIT VELOCITY = Flare exit velocity is less than 60 ft/s (18.3 m/sec)
F-1	Fugitive Emission Units	N/A	R5352-B	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
F-1	Fugitive Emission Units	N/A	60VV-C	40 CFR Part 60, Subpart VV	No changing attributes.
F-1	Fugitive Emission Units	N/A	63YY-A	40 CFR Part 63, Subpart YY	No changing attributes.
F-4	Fugitive Emission Units	N/A	R5352-B	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	No changing attributes.
F-4	Fugitive Emission Units	N/A	60VV-C	40 CFR Part 60, Subpart VV	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
F-4	Fugitive Emission Units	N/A	63H-1	40 CFR Part 63, Subpart H	No changing attributes.
F-5	Industrial Process Cooling Towers	N/A	63YY-A	40 CFR Part 63, Subpart YY	No changing attributes.
LOADRACKS	Loading/Unloading Operations	N/A	R5211-A	30 TAC Chapter 115, Loading and Unloading of VOC	PRODUCT TRANSFERRED = Volatile organic compounds other than liquefied petroleum gas and gasoline., TRUE VAPOR PRESSURE = True vapor pressure less than 0.5 psia.
LOADRACKS	Loading/Unloading Operations	N/A	R5211-B	30 TAC Chapter 115, Loading and Unloading of VOC	PRODUCT TRANSFERRED = Liquefied petroleum gas (LPG)
R-2501X	Reactor	N/A	60RRR-A	40 CFR Part 60, Subpart RRR	No changing attributes.
R-2501X	Reactor	N/A	60RRR-E	40 CFR Part 60, Subpart RRR	No changing attributes.
GTG-1	Stationary Turbines	N/A	60GG-C	40 CFR Part 60, Subpart GG	No changing attributes.
GTG-2	Stationary Turbines	N/A	60GG-C	40 CFR Part 60, Subpart GG	No changing attributes.
D-8001R	Storage Tanks/Vessels	N/A	61FF-343	40 CFR Part 61, Subpart FF	No changing attributes.
D-8010X	Storage Tanks/Vessels	N/A	61FF-343-1	40 CFR Part 61, Subpart FF	Alternate Monitoring Parameters = Alternate monitoring parameters not requested, Control Device Type/Operations = Thermal vapor incinerator with a reduction of organics being greater than or equal to 95 weight percent

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
D-8010X	Storage Tanks/Vessels	N/A	61FF-343-2	40 CFR Part 61, Subpart FF	Carbon Replacement Interval = The carbon in the carbon adsorption system is replaced when monitoring indicates breakthrough., Control Device Type/Operations = Carbon adsorption system that does not regenerate the carbon bed directly in the control device
D-8010X	Storage Tanks/Vessels	N/A	63G-WW2	40 CFR Part 63, Subpart G	Control Device Type = Thermal vapor incinerator, Compliance with 40 CFR 63.139(c)(1) = The enclosed combustion device being used meets the 95% reduction provisions specified in 40 CFR § 63.139(c)(1)(i)
D-8010X	Storage Tanks/Vessels	N/A	63G-WW3	40 CFR Part 63, Subpart G	Control Device Type = Carbon adsorber, Regenerate On-site = Carbon adsorption bed is not regenerated directly onsite.
DSL-TK	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-1701	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-1702	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-1703	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
TK-1704	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-2210X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-2501	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-2501	Storage Tanks/Vessels	N/A	60Kb-A	40 CFR Part 60, Subpart Kb	No changing attributes.
TK-2501	Storage Tanks/Vessels	N/A	61FF-351	40 CFR Part 61, Subpart FF	No changing attributes.
TK-3110X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-3710X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-7403X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-8001	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-8001	Storage Tanks/Vessels	N/A	60KB-A	40 CFR Part 60, Subpart Kb	No changing attributes.
TK-8001	Storage Tanks/Vessels	N/A	61FF-351	40 CFR Part 61, Subpart FF	No changing attributes.
TK-8001	Storage Tanks/Vessels	N/A	63G-WW1	40 CFR Part 63, Subpart G	No changing attributes.
TK-8002X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-8003X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
TK-8101	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
TK-9603X	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
Z-7001	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
Z-7002	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
Z-7401	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
Z-8011	Storage Tanks/Vessels	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
HONWWTP	Treatment Process	N/A	63G-CA	40 CFR Part 63, Subpart G	CONTROL DEVICES = CARBON ADSORBER, REGENERATION = CARBON BED IS NOT REGENERATED ONSITE, MONITORING OPTIONS = USING AN ORGANIC MONITORING DEVICE AS ALLOWED UNDER § 63.146(E)(2)
HONWWTP	Treatment Process	N/A	63G-TO	40 CFR Part 63, Subpart G	CONTROL DEVICES = THERMAL VAPOR INCINERATOR, COMPLY W/ § 63.139(C)(1) = ENCLOSED COMBUSTION DEVICE BEING USED MEETS THE 95%

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					REDUCTION PROVISIONS SPECIFIED IN 40 CFR § 63.139(C)(1)(I), MONITORING OPTIONS = MONITORING PARAMETERS SPECIFIED IN TABLE 13
T-8201	Treatment Process	N/A	63G-1	40 CFR Part 63, Subpart G	No changing attributes.
D-2503X	Volatile Organic Compound Water Separators	N/A	R5112-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-8009AX	Volatile Organic Compound Water Separators	N/A	R151-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-8009AX	Volatile Organic Compound Water Separators	N/A	61FF-CA	40 CFR Part 61, Subpart FF	CARBON REPLACEMENT INTERV = EXHAUST IS MONITORED ON A REGULAR SCHEDULE AND CARBON IS REPLACED IMMEDIATELY UPON BREAKTHROUGH, CONTROL DEVICE TYP/OP = CARBON ADSORPTION SYSTEM NOT REGENERATING BED DIRECTLY IN DEVICE
D-8009AX	Volatile Organic Compound Water Separators	N/A	61FF-TO	40 CFR Part 61, Subpart FF	ALT MONITORING PARAMETERS = COMPLYING WITH THE MONITORING REQUIREMENTS OF SUBPART FF, CONTROL DEVICE TYP/OP

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					= THERMAL VAPOR INCINERATOR REDUCING ORGANICS BY 95 WEIGHT PERCENT OR GREATER
D-8009AX	Volatile Organic Compound Water Separators	N/A	63G-CA	40 CFR Part 63, Subpart G	REGENERATION =, CONTROL DEVICE TYPE = CARBON ADSORBER, MONITORING OPTIONS = CONTROL DEVICE IS USING AN ORGANIC MONITORING DEVICE AS ALLOWED UNDER § 63.143(E)(2)
D-8009AX	Volatile Organic Compound Water Separators	N/A	63G-TO	40 CFR Part 63, Subpart G	COMPLY W/ §63.139(C)(1) =, CONTROL DEVICE TYPE = THERMAL VAPOR INCINERATOR, MONITORING OPTIONS = CONTROL DEVICE IS USING THE MONITORING PARAMETERS SPECIFIED IN TABLE 13
D-8009BX	Volatile Organic Compound Water Separators	N/A	R151-B	30 TAC Chapter 115, Water Separation	No changing attributes.
D-8009BX	Volatile Organic Compound Water Separators	N/A	61FF-CA	40 CFR Part 61, Subpart FF	CARBON REPLACEMENT INTERV = EXHAUST IS MONITORED ON A REGULAR SCHEDULE AND CARBON IS REPLACED IMMEDIATELY UPON BREAKTHROUGH,

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					CONTROL DEVICE TYP/OP = CARBON ADSORPTION SYSTEM NOT REGENERATING BED DIRECTLY IN DEVICE
D-8009BX	Volatile Organic Compound Water Separators	N/A	61FF-TO	40 CFR Part 61, Subpart FF	ALT MONITORING PARAMETERS = COMPLYING WITH THE MONITORING REQUIREMENTS OF SUBPART FF, CONTROL DEVICE TYP/OP = THERMAL VAPOR INCINERATOR REDUCING ORGANICS BY 95 WEIGHT PERCENT OR GREATER
D-8009BX	Volatile Organic Compound Water Separators	N/A	63G-CA	40 CFR Part 63, Subpart G	REGENERATION =, CONTROL DEVICE TYPE = CARBON ADSORBER, MONITORING OPTIONS = CONTROL DEVICE IS USING AN ORGANIC MONITORING DEVICE AS ALLOWED UNDER § 63.143(E)(2)
D-8009BX	Volatile Organic Compound Water Separators	N/A	63G-TO	40 CFR Part 63, Subpart G	COMPLY W/ §63.139(C)(1) =, CONTROL DEVICE TYPE = THERMAL VAPOR INCINERATOR, MONITORING OPTIONS = CONTROL DEVICE IS USING THE MONITORING PARAMETERS SPECIFIED IN TABLE 13

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
D-8010X	Volatile Organic Compound Water Separators	N/A	R151-B	30 TAC Chapter 115, Water Separation	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)
B-7240	EU	60Db-A	SO_2	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)
B-7240	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)
B-7240	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 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)
B-7240	EU	60Db-A	NO_X	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 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)(4) § 60.49b(i) § 60.49b(v) § 60.49b(w)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
B-7240	EU	63DDDDD	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
B-7280	EU	60Db-B	SO_2	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	Units firing only very low sulfur oil and/or a mixture of gaseous fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2 emissions limit in §60.42b(k)(1).	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) [G]§ 60.49b(r)(2)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) [G]§ 60.49b(r)(2)
B-7280	EU	60Db-B	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)
B-7280	EU	60Db-B	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 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)

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)
B-7280	EU	60Db-B	NO_X	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 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)(3) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(i) § 60.49b(v) § 60.49b(w)
B-7280	EU	63DDDDD	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
B-7290	EU	60Db-B	SO_2	40 CFR Part 60, Subpart Db	§ 60.42b(k)(2)	Units firing only very low sulfur oil and/or a mixture of gaseous fuels with a potential SO2 emission rate of 140 ng/J (0.32 lb/MMBtu) heat input or less are exempt from the SO2 emissions limit in §60.42b(k)(1).	§ 60.47b(f)	§ 60.45b(k) § 60.49b(o) § 60.49b(r) [G]§ 60.49b(r)(2)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(r) [G]§ 60.49b(r)(2)
B-7290	EU	60Db-B	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	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						MW (100 MMBtu/hr).			
B-7290	EU	60Db-B	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 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)
B-7290	EU	60Db-B	NO_X	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 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)(3) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(i) § 60.49b(v) § 60.49b(w)
B-7290	EU	63DDDDD	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
GRPHRSG	EU	60Db-B	SO_2	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	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						combusted in the unit > 29 MW (100 MMBtu/hr).			
GRPHRSG	EU	60Db-B	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)
GRPHRSG	EU	60Db-B	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 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)
GRPHRSG	EU	60Db-B	NO_X	40 CFR Part 60, Subpart Db	§ 60.44b(l)(1) § 60.44b(h) § 60.44b(i) § 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)(3) [G]§ 60.48b(b) § 60.48b(c) § 60.48b(d) § 60.48b(e) [G]§ 60.48b(e)(2) § 60.48b(e)(3) § 60.48b(f)	[G]§ 60.48b(b) § 60.48b(c) [G]§ 60.49b(d) [G]§ 60.49b(g) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3) § 60.49b(b) § 60.49b(h) § 60.49b(i) § 60.49b(v) § 60.49b(w)
N-12	EU	63DDDDD	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	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

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					requirements of 40 CFR Part 63, Subpart DDDDD				
N-13	EU	63DDDDD	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
F-2	PRO	63F	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)	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)	§ 63.103(b)(2) [G]§ 63.103(b)(5) [G]§ 63.103(d) [G]§ 63.104(f)(2)
F-2A	PRO	63F	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(e)	§ 63.103(b)(2) [G]§ 63.103(b)(5) [G]§ 63.103(d) [G]§ 63.104(f)(2)
N-22	CD	61FF-3	BENZENE	40 CFR Part 61, Subpart FF	§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(ii) § 61.349(b)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent	§ 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(d) [G]§ 61.355(h) § 61.355(i)(1)	§ 61.355(i)(1) § 61.355(i)(3)(ii)(A) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2)(i)(G) [G]§ 61.356(f)(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)
					§ 61.349(e) § 61.349(f) § 61.349(g)	system and control device.	§ 61.355(i)(2) § 61.355(i)(3)(i) § 61.355(i)(3)(ii) § 61.355(i)(3)(ii)(A) § 61.355(i)(3)(ii)(B) § 61.355(i)(3)(ii)(C) § 61.355(i)(3)(iii) § 61.355(i)(3)(iv) § 61.355(i)(4)	§ 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(10) § 61.356(j)(2) § 61.356(j)(3)	
X-5702	CD	61FF-2	BENZENE	40 CFR Part 61, Subpart FF	§ 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent system and control device.	§ 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h) § 61.355(i)(1) § 61.355(i)(2) § 61.355(i)(3)(i) § 61.355(i)(3)(ii) § 61.355(i)(3)(ii)(A) § 61.355(i)(3)(ii)(B) § 61.355(i)(3)(ii)(C) § 61.355(i)(3)(iii) § 61.355(i)(3)(iv) § 61.355(i)(4)	§ 61.354(c) § 61.354(c)(1) § 61.355(i)(1) § 61.355(i)(3)(ii)(A) § 61.356(f) § 61.356(f)(1) [G]§ 61.356(f)(3) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
X-8501	CD	61FF-1	BENZENE	40 CFR Part 61, Subpart FF	§ 61.349(a) § 60.18 § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 61.354(c)	For each closed-vent system and control device used to comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent system and control device.	§ 60.18(f)(2) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(3) § 61.356(f) § 61.356(f)(1) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)
X-8502	CD	61FF-1	BENZENE	40 CFR Part 61, Subpart FF	§ 61.349(a) § 60.18	For each closed-vent system and control device used to	§ 60.18(f)(2) § 61.349(a)(1)(i)	§ 61.354(c) § 61.354(c)(3)	§ 61.357(d)(7) § 61.357(d)(7)(iv)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g) § 61.354(c)	comply with §§61.343-61.348, properly design, install, operate, and maintain the closed-vent system and control device.	§ 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(3) [G]§ 61.355(h)	§ 61.356(f) § 61.356(f)(1) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(7)	§ 61.357(d)(7)(iv)(F)
T-3101	EP	60NNN-G	VOC/TOC	40 CFR Part 60, Subpart NNN	§ 60.662(a)	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(d) § 60.664(c)	§ 60.663(c)(1) § 60.663(d) § 60.665(b) § 60.665(b)(2) § 60.665(b)(2)(i) § 60.665(c) § 60.665(c)(4) § 60.665(d) § 60.665(e)	§ 60.665(a) § 60.665(b) § 60.665(b)(2) § 60.665(b)(2)(i) § 60.665(c) § 60.665(c)(4) § 60.665(k) § 60.665(l) § 60.665(l)(1) § 60.665(l)(2) § 60.665(l)(3)
T-5702	EP	60NNN-B1	VOC/TOC	40 CFR Part 60, Subpart NNN	§ 60.662(a)	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(f) § 60.664(a)	§ 60.665(b) § 60.665(p)	§ 60.663(f) § 60.665(a) § 60.665(b) § 60.665(k) § 60.665(l) § 60.665(p)
T-5702	EP	60NNN-B2	VOC/TOC	40 CFR Part 60, Subpart NNN	§ 60.662(a)	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(a) § 60.663(a)(1) § 60.663(a)(1)(i) § 60.663(a)(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(a)(1) § 60.663(a)(2) § 60.665(b) [G]§ 60.665(b)(1) § 60.665(c) § 60.665(c)(1) § 60.665(d)	§ 60.665(a) § 60.665(b) [G]§ 60.665(b)(1) § 60.665(c) § 60.665(c)(1) § 60.665(k) § 60.665(l) § 60.665(l)(1) § 60.665(l)(2)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
N-10	EP	R5121-G	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(2)(A) [G]§ 115.122(a)(4) § 115.127(a)(2)	A vent gas stream having a combined weight of volatile organic compounds (VOC) < 100 lbs (45.4 kg) in any continuous 24-hour period is exempt from the requirements of § 115.121(a)(1).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
N-10	EP	R5121-G	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(a)(2)(B) [G]§ 115.122(a)(4) § 115.127(a)(2)	A vent gas stream specified in § 115.121(a)(1) of this title with a concentration of VOC < 612 ppmv is exempt from § 115.121(a)(1).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
N-15	EP	R5121-A	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.121(a)(1) § 115.122(a)(1) § 115.122(a)(1)(B) § 60.18	No person may allow a vent gas stream containing VOC to be emitted from any process vent, unless the vent gas stream is burned properly in accordance with §115.122(a)(1) of this title.	[G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2)	§ 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2)	None
N-15A	EP	R5121-A	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.121(a)(1) § 115.122(a)(1) § 115.122(a)(1)(B) § 60.18	No person may allow a vent gas stream containing VOC to be emitted from any process vent, unless the vent gas stream is burned properly in accordance with §115.122(a)(1) of this title.	[G]§ 115.125 § 115.126(1) § 115.126(1)(B) § 115.126(2)	§ 115.126 § 115.126(1) § 115.126(1)(B) § 115.126(2)	None
N-16	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None

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)
N-19	EP	R5121-D	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.121(a)(2) § 115.122(a)(2) § 115.122(a)(2)(B)	No person may allow a vent gas stream to be emitted from the processes specified in §115.121(a)(2)(A)-(E), unless the vent gas stream is controlled properly in accordance with §115.122(a)(2).	[G]§ 115.125 § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(i) § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(i) § 115.126(2)	None
N-19	EP	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	[G]§ 63.113(a)(2) § 63.113(h) [G]§ 63.115(f)	Reduce emissions of total organic HAPs by 98 wt.% or to a concentration of 20 ppm by volume; whichever is less stringent or as specified. §63.113(a)(2)(i)-(ii)	§ 63.114(a) § 63.114(a)(1)(i) § 63.114(e) [G]§ 63.115(f) [G]§ 63.116(c)	§ 63.114(a)(1) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(4)(ii) § 63.118(a)(1) § 63.118(a)(2) [G]§ 63.152(a) [G]§ 63.152(f)	§ 63.114(e) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(4)(ii) § 63.117(f) § 63.118(f)(1) § 63.118(f)(2) [G]§ 63.151(b) § 63.151(e) [G]§ 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 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)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
N-20A	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15%	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring	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)
						averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	Summary		
N-20B	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
N-22	EP	R5121-P	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.121(a)(2) § 115.122(a)(2) § 115.122(a)(2)(B)	No person may allow a vent gas stream to be emitted from the processes specified in §115.121(a)(2)(A)-(E), unless the vent gas stream is controlled properly in accordance with §115.122(a)(2).	[G]§ 115.125 § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(iii) § 115.126(2)	§ 115.126 § 115.126(1) § 115.126(1)(A) § 115.126(1)(A)(iii) § 115.126(2)	None
N-22	EP	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	[G]§ 63.113(a)(2) § 63.113(h) [G]§ 63.115(f)	Reduce emissions of total organic HAPs by 98 wt.% or to a concentration of 20 ppm by volume; whichever is less stringent or as specified. §63.113(a)(2)(i)-(ii)	§ 63.114(a)(5) § 63.114(b) § 63.114(e) [G]§ 63.115(f) [G]§ 63.116(c) § 63.152(g)(1)(i) [G]§ 63.152(g)(1)(ii) § 63.152(g)(1)(iii) § 63.152(g)(1)(iv) [G]§ 63.152(g)(1)(v)	§ 63.114(b) [G]§ 63.152(a) § 63.152(g)(1) § 63.152(g)(1)(i) [G]§ 63.152(g)(1)(ii) § 63.152(g)(1)(iii) § 63.152(g)(1)(iv) [G]§ 63.152(g)(1)(v) [G]§ 63.152(g)(1)(vi) § 63.152(g)(2) § 63.152(g)(2)(i) § 63.152(g)(2)(ii) § 63.152(g)(2)(iii)	§ 63.114(e) [G]§ 63.151(b) § 63.151(e) [G]§ 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G]§ 63.152(c)(2)(ii) § 63.152(c)(2)(iii)

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)
									§ 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6) § 63.152(g)(1) § 63.152(g)(2)(i) § 63.152(g)(2)(ii)
N-24A	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
N-24B	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
N-9	EP	R111-1	OPACITY	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
T-5702	EP	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	[G]§ 63.113(a)(2) § 63.113(h) [G]§ 63.115(f)	Reduce emissions of total organic HAPs by 98 wt.% or to a concentration of 20 ppm by volume; whichever	§ 63.114(a) § 63.114(a)(1)(i) § 63.114(e) [G]§ 63.115(f)	§ 63.114(a)(1) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(4)(ii)	§ 63.114(e) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(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)
						is less stringent or as specified. §63.113(a)(2)(i)-(ii)	[G]§ 63.116(c)	§ 63.118(a)(1) § 63.118(a)(2) [G]§ 63.152(a) [G]§ 63.152(f)	§ 63.117(f) § 63.118(f)(1) § 63.118(f)(2) [G]§ 63.151(b) § 63.151(e) [G]§ 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 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)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
T-5703	EP	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	[G]§ 63.113(a)(2) § 63.113(h) [G]§ 63.115(f)	Reduce emissions of total organic HAPs by 98 wt.% or to a concentration of 20 ppm by volume; whichever is less stringent or as specified. §63.113(a)(2)(i)-(ii)	§ 63.114(a) § 63.114(a)(1)(i) § 63.114(e) [G]§ 63.115(f) [G]§ 63.116(c)	§ 63.114(a)(1) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(4)(ii) § 63.118(a)(1) § 63.118(a)(2) [G]§ 63.152(a) [G]§ 63.152(f)	§ 63.114(e) § 63.117(a)(4) § 63.117(a)(4)(i) § 63.117(a)(4)(ii) § 63.117(f) § 63.118(f)(1) § 63.118(f)(2) [G]§ 63.151(b) § 63.151(e) [G]§ 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
									[G]§ 63.152(b)(2) § 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)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
X-8501	EU	R1111-A	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 emission event emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
X-8502	EU	R1111-A	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 emission event emissions as provided in §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
X-8502	CD	60A-1	OPACITY	40 CFR Part 60, Subpart A	§ 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(i)(A) § 60.18(c)(3)(i)(B) § 60.18(c)(6) § 60.18(e)	Flares shall comply with paragraphs (c)-(f) of § 60.18.	§ 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(4)	None	None
X-8502	CD	60A-2	OPACITY	40 CFR Part 60, Subpart A	§ 60.18(b) § 60.18(c)(1) § 60.18(c)(2) § 60.18(c)(3)(ii)	Flares shall comply with paragraphs (c)-(f) of § 60.18.	§ 60.18(d) § 60.18(f)(1) § 60.18(f)(2) § 60.18(f)(3)	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.18(c)(4)(i) § 60.18(c)(6) § 60.18(e)		§ 60.18(f)(4)		
X-8502	CD	63A-1	OPACITY	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(i)(A) § 63.11(b)(6)(i)(B) § 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-8502	CD	63A-2	OPACITY	40 CFR Part 63, Subpart A	§ 63.11(b)(4) § 63.11(b)(1) § 63.11(b)(2) § 63.11(b)(3) § 63.11(b)(5) § 63.11(b)(6)(ii) § 63.11(b)(7)(i)	Flares shall be designed and operated with no visible emissions, except for periods of a total of 5 minutes or less during any 2 consecutive hrs. Test Method 22 in App. A of part 60 of this chapter shall be used.	§ 63.11(b)(4) § 63.11(b)(5) § 63.11(b)(7)(i)	None	None
F-1	EU	R5352-B	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
F-1	EU	R5352-B	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(A) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(3) § 115.352(5) § 115.352(7) § 115.352(8) § 115.357(12)	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 dropping or exuding of process fluid	§ 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C) § 115.356(5)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.357(8)	based on sight, smell, or sound.			
F-1	EU	R5352-B	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 dropping 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
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-2 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Pumps in light liquid service shall comply with the requirements outlined in § 60.482-2(a)-(f).	[G]§ 60.482-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-10(g) § 60.482-1(a) § 60.482-1(b) § 60.482-10(e) § 60.482-10(h) § 60.482-10(m)	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)	[G]§ 60.482-10(f) § 60.482-10(i) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.482-10(j) [G]§ 60.482-10(k) [G]§ 60.482-10(l) [G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	§ 60.482-10(d) § 60.18 § 60.482-1(a) § 60.482-1(b)	Flares used to comply with this subpart shall comply with the requirements of §60.18.	§ 60.485(a) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1)	§ 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)
					§ 60.482-10(e) § 60.482-10(m)		[G]§ 60.485(g)		
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-3 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Compressors shall comply with the requirements outlined in § 60.482-3(a)-(j).	[G]§ 60.482-3 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-7 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9 [G]§ 60.483-1 [G]§ 60.483-2	Valves in gas/vapor service and in light liquid service shall comply with the requirements outlined in § 60.482-7(a)-(h).	[G]§ 60.482-7 [G]§ 60.483-1 [G]§ 60.483-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(f) [G]§ 60.486(g) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(d) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	§ 60.482-4(a) § 60.482-1(a) § 60.482-1(b) § 60.482-4(b)(1) § 60.482-4(b)(2) § 60.482-4(d)(1) § 60.482-4(d)(2) [G]§ 60.482-9	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.	§ 60.482-4(b)(1) § 60.482-4(b)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(3) [G]§ 60.486(e)(4) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Pumps in heavy liquid service shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 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)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Flanges and other connectors shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Valves in heavy liquid service shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-1	EU	63YY-A	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
F-4	EU	R5352-B	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
F-4	EU	R5352-B	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)	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 dropping or	§ 115.354(1) § 115.354(10) § 115.354(11) § 115.354(3) § 115.354(5) § 115.354(6) § 115.354(9) [G]§ 115.355 § 115.357(1)	§ 115.352(7) § 115.354(10) § 115.356 [G]§ 115.356(1) [G]§ 115.356(2) § 115.356(3) § 115.356(3)(A) § 115.356(3)(B) [G]§ 115.356(3)(C)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.357(12) § 115.357(8)	exuding of process fluid based on sight, smell, or sound.		§ 115.356(5)	
F-4	EU	R5352-B	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§ 115.352(1)(B) § 115.352(1) § 115.352(10) § 115.352(2) § 115.352(2)(A) § 115.352(2)(C) § 115.352(2)(C)(i) § 115.352(2)(C)(ii) § 115.352(2)(C)(iii) § 115.352(3) § 115.352(5) § 115.352(7) § 115.357(12) § 115.357(8)	No compressor seals shall be allowed to have a VOC leak, for more than 15 days after discovery which exceeds a screening concentration greater than 10,000 parts per million by volume above background as methane, or the dropping 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
F-4	EU	R5352-B	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 dropping 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
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-2 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Pumps in light liquid service shall comply with the requirements outlined in § 60.482-2(a)-(f).	[G]§ 60.482-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2)	§ 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)
							§ 60.485(f)	[G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j)	
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-10(g) § 60.482-1(a) § 60.482-1(b) § 60.482-10(e) § 60.482-10(h) § 60.482-10(m)	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)	[G]§ 60.482-10(f) § 60.482-10(i) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.482-10(j) [G]§ 60.482-10(k) [G]§ 60.482-10(l) [G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	§ 60.482-10(d) § 60.18 § 60.482-1(a) § 60.482-1(b) § 60.482-10(e) § 60.482-10(m)	Flares used to comply with this subpart shall comply with the requirements of §60.18.	§ 60.485(a) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f) [G]§ 60.485(g)	[G]§ 60.486(a) [G]§ 60.486(d) § 60.486(e) § 60.486(e)(1)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-3 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Compressors shall comply with the requirements outlined in § 60.482-3(a)-(j).	[G]§ 60.482-3 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(h) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-7 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9 [G]§ 60.483-1 [G]§ 60.483-2	Valves in gas/vapor service and in light liquid service shall comply with the requirements outlined in § 60.482-7(a)-(h).	[G]§ 60.482-7 [G]§ 60.483-1 [G]§ 60.483-2 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) [G]§ 60.485(e) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) [G]§ 60.486(e)(2) [G]§ 60.486(e)(4) [G]§ 60.486(f) [G]§ 60.486(g) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(d) § 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)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	§ 60.482-4(a) § 60.482-1(a) § 60.482-1(b) § 60.482-4(b)(1) § 60.482-4(b)(2) § 60.482-4(d)(1) § 60.482-4(d)(2) [G]§ 60.482-9	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.	§ 60.482-4(b)(1) § 60.482-4(b)(2) § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(c) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) § 60.486(e) § 60.486(e)(1) § 60.486(e)(3) [G]§ 60.486(e)(4) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Pumps in heavy liquid service shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Flanges and other connectors shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	EU	60VV-C	VOC	40 CFR Part 60, Subpart VV	[G]§ 60.482-8 § 60.482-1(a) § 60.482-1(b) [G]§ 60.482-9	Valves in heavy liquid service shall comply with the requirements of §60.482-8(a)-(d).	[G]§ 60.482-8 § 60.485(a) [G]§ 60.485(b) [G]§ 60.485(d) § 60.485(f)	[G]§ 60.486(a) [G]§ 60.486(b) [G]§ 60.486(c) § 60.486(e) § 60.486(e)(1) § 60.486(j)	§ 60.487(a) [G]§ 60.487(b) [G]§ 60.487(c) § 60.487(e)
F-4	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) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	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]§ 63.181(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)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.165 § 63.162(a)	Standards: Pressure relief device in gas/vapor service.	[G]§ 63.165 [G]§ 63.180(b)	§ 63.181(a) [G]§ 63.181(b)	[G]§ 63.182(a) [G]§ 63.182(b)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.162(c) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	§63.165(a)-(d)	[G]§ 63.180(c) [G]§ 63.180(d)	§ 63.181(c) [G]§ 63.181(f)	§ 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
F-4	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)
F-4	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)
F-4	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)
F-4	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: 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) [G]§ 63.182(d)
F-4	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)	Standards: Agitators 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]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					[G]§ 63.162(g) § 63.162(h) [G]§ 63.171			[G]§ 63.181(i)	§ 63.182(c)(4) [G]§ 63.182(d)
F-4	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)
F-4	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)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.170 § 63.162(a) § 63.162(c) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Surge control vessels and bottom receivers.	[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)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.172(c) § 63.172(e) [G]§ 63.172(h) § 63.172(m)	Enclosed combustion devices shall be designed and operated to reduce the organic HAP or VOC emissions vented to them with requirements as specified in this section.	§ 63.172(e) [G]§ 63.172(h) [G]§ 63.180(b) [G]§ 63.180(d)	§ 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)(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)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.172(d) § 63.11(b) § 63.172(e)	Flares used to comply with this subpart shall comply with the requirements of §	§ 63.172(e) [G]§ 63.172(h) [G]§ 63.180(b)	§ 63.181(a) [G]§ 63.181(b) § 63.181(c)	[G]§ 63.182(a) [G]§ 63.182(b) § 63.182(c)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					[G]§ 63.172(h) § 63.172(m)	63.11(b) of 40 CFR 63, Subpart A.	[G]§ 63.180(d) [G]§ 63.180(e)	[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(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.173 § 63.162(a) § 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171	Standards: Agitators gas/vapor service and in light liquid service. §63.173(a)-(j).	[G]§ 63.173 [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)
F-4	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)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	§ 63.172(a) [G]§ 63.172(h) § 63.172(i) § 63.172(j)(1) § 63.172(j)(2) § 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) § 63.172(j)(1) § 63.172(j)(2) [G]§ 63.172(k) [G]§ 63.172(l) [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.118(a)(3) § 63.172(j)(1) [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]§ 63.182(a) [G]§ 63.182(b) § 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
F-4	EU	63H-1	112(B) HAPS	40 CFR Part 63, Subpart H	[G]§ 63.163 § 63.162(a)	Standards: Pumps in light liquid service. §63.163(a)-(j)	[G]§ 63.163 [G]§ 63.176	§ 63.181(a) [G]§ 63.181(b)	[G]§ 63.182(a) [G]§ 63.182(b)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.162(c) [G]§ 63.162(f) [G]§ 63.162(g) § 63.162(h) [G]§ 63.171 [G]§ 63.176		[G]§ 63.180(b) [G]§ 63.180(d)	§ 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)	§ 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
F-4	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)
F-4	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)
F-5	EU	63YY-A	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63,	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					specification requirements of 40 CFR Part 63, Subpart YY		Subpart YY	YY	
LOADRACKS	EU	R5211-A	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
LOADRACKS	EU	R5211-B	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(3) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Liquefied petroleum gas. All loading and unloading of liquefied petroleum gas is exempt from the requirements of this division, except for the specified requirements.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(ii) § 115.216(3)(A)(iii) § 115.216(3)(B)	None
R-2501X	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(a) § 60.703(a)(1) § 60.703(a)(1)(i) § 60.703(a)(2) § 60.703(a)(2)(i) § 60.704(a) § 60.704(b) § 60.704(b)(1) § 60.704(b)(2) § 60.704(b)(3) [G]§ 60.704(b)(4)	§ 60.703(a)(1) § 60.703(a)(2) § 60.705(b) [G]§ 60.705(b)(1) § 60.705(c) § 60.705(c)(1) § 60.705(d)(1) § 60.705(s)	§ 60.705(a) § 60.705(b) [G]§ 60.705(b)(1) § 60.705(c) § 60.705(c)(1) § 60.705(k) § 60.705(l) § 60.705(l)(1) § 60.705(l)(2) § 60.705(s)
R-2501X	EP	60RRR-E	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	§ 60.703(e) § 60.704(a) § 60.704(b) § 60.704(b)(1) § 60.704(b)(2) § 60.704(b)(3)	§ 60.705(b) § 60.705(q) § 60.705(s)	§ 60.703(e) § 60.705(a) § 60.705(b) § 60.705(k) § 60.705(l) § 60.705(q)

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)
						process heater is used, introduce vent stream as specified.	[G]§ 60.704(b)(4)		§ 60.705(s)
GTG-1	EU	60GG-C	NOX	40 CFR Part 60, Subpart GG	§ 60.332(a)(1) § 60.332(a)(3)	No owner or operator shall discharge into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of the amount as determined from the specified equation.	[G]§ 60.334(b) [G]§ 60.334(j)(1)(iii) [G]§ 60.335(a) § 60.334(j) § 60.334(j)(1) § 60.335(b)(2) § 60.335(b)(3)	[G]§ 60.334(b)	§ 60.334(j) § 60.334(j)(5)
GTG-1	EU	60GG-C	SO2	40 CFR Part 60, Subpart GG	§ 60.333(b)	No stationary gas turbine shall burn any fuel which contains sulfur in excess of 0.8% by weight.	§ 60.334(h) [G]§ 60.334(h)(3)	None	None
GTG-2	EU	60GG-C	NOX	40 CFR Part 60, Subpart GG	§ 60.332(a)(1) § 60.332(a)(3)	No owner or operator shall discharge into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of the amount as determined from the specified equation.	[G]§ 60.334(b) [G]§ 60.334(j)(1)(iii) [G]§ 60.335(a) § 60.334(j) § 60.334(j)(1) § 60.335(b)(2) § 60.335(b)(3)	[G]§ 60.334(b)	§ 60.334(j) § 60.334(j)(5)
GTG-2	EU	60GG-C	SO2	40 CFR Part 60, Subpart GG	§ 60.333(b)	No stationary gas turbine shall burn any fuel which contains sulfur in excess of 0.8% by weight.	§ 60.334(h) [G]§ 60.334(h)(3)	None	None
D-8001R	EU	61FF-343	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 60.18 § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 60.18(f)(2) § 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(a)(1)(ii) § 61.349(e) § 61.349(f) § 61.354(c)	§ 61.349(a)(1)(ii) § 61.354(c) § 61.354(c)(3) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(g) § 61.356(h)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(F)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 61.349(a)(1)(ii) § 61.349(a)(1)(ii)(A) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)		§ 61.354(c)(3) § 61.354(f)(2) [G]§ 61.355(h)	§ 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(3)(ii) § 61.356(j)(7)	
D-8010X	EU	61FF-343-1	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
D-8010X	EU	61FF-343-2	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(ii) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(d) [G]§ 61.355(h)	§ 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(G) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(10) § 61.356(j)(2) § 61.356(j)(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)
D-8010X	EU	63G-WW2	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(i) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h) § 63.172(i)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.139(d)(2)(i) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(2) § 63.143(f) § 63.143(g) § 63.145(a) § 63.145(a)(2) § 63.148(b)(3) [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)	§ 63.133(h) § 63.143(e)(2) § 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(b)(6) § 63.147(d) § 63.148(i)(6) [G]§ 63.152(a) [G]§ 63.152(f) [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)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(2) § 63.146(g) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)

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)
D-8010X	EU	63G-WW3	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(c)(2) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h) § 63.172(i)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.139(d)(2)(vi) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(2) § 63.143(f) § 63.143(g) § 63.145(a)(2) § 63.148(b)(3) [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)	§ 63.133(h) § 63.143(e)(2) § 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(b)(6) § 63.147(d) § 63.147(d)(3) [G]§ 63.147(d)(3)(i) § 63.148(i)(6) [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)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(2) § 63.146(g) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)

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)
DSL-TK	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-1701	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-1702	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-1703	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-1704	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
TK-2210X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-2501	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-2501	EU	60Kb-A	VOC	40 CFR Part 60, Subpart Kb	§ 60.110b(a)	Except for §60.110b(b), this subpart applies to vessels with a capacity greater than or equal to 75 cubic meters (19,800 gal) used to store VOLs for which construction/reconstruction /modification began after 7/23/84.	§ 60.116b(a) § 60.116b(b) § 60.116b(c) § 60.116b(d) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3)	§ 60.116b(a) § 60.116b(b) § 60.116b(c)	§ 60.116b(d)
TK-2501	EU	61FF-351	BENZENE	40 CFR Part 61, Subpart FF	§ 61.351(a) § 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(C) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii) § 61.351(a)(1) § 61.351(b)	As an alternative to the standards for tanks specified in § 61.343, an owner or operator may elect to comply with one of the following §61.351(a)(1)-(3):	§ 60.113b(a)(1) § 60.113b(a)(2) § 60.113b(a)(4) § 60.113b(a)(5)	§ 60.115b § 60.115b(a)(2) § 61.356(k)	§ 60.113b(a)(2) § 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(3) § 61.357(e) § 61.357(f)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
TK-3110X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-3710X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-7403X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-8001	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-8001	EU	60KB-A	VOC	40 CFR Part 60, Subpart Kb	§ 60.110b(a)	Except for §60.110b(b), this subpart applies to vessels with a capacity greater than or equal to 75 cubic meters (19,800 gal) used to store VOLs for which construction/reconstruction /modification began after	§ 60.116b(a) § 60.116b(b) § 60.116b(d) § 60.116b(f)(2)	§ 60.116b(a) § 60.116b(b)	§ 60.116b(d)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						7/23/84.			
TK-8001	EU	61FF-351	BENZENE	40 CFR Part 61, Subpart FF	§ 61.351(a) § 60.112b(a)(1) § 60.112b(a)(1)(i) § 60.112b(a)(1)(ii)(C) § 60.112b(a)(1)(iii) § 60.112b(a)(1)(iv) § 60.112b(a)(1)(ix) § 60.112b(a)(1)(v) § 60.112b(a)(1)(vi) § 60.112b(a)(1)(vii) § 60.112b(a)(1)(viii) § 61.351(a)(1) § 61.351(b)	As an alternative to the standards for tanks specified in § 61.343, an owner or operator may elect to comply with one of the following §61.351(a)(1)-(3):	§ 60.113b(a)(1) § 60.113b(a)(2) § 60.113b(a)(4) § 60.113b(a)(5)	§ 60.115b § 60.115b(a)(2) § 61.356(k)	§ 60.113b(a)(2) § 60.113b(a)(5) § 60.115b § 60.115b(a)(1) § 60.115b(a)(3) § 61.357(e) § 61.357(f)
TK-8001	EU	63G-WW1	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(1)	A fixed roof shall be operated and maintained except that if the wastewater tank is used for specified purpose, then owner or operator shall comply with requirements of § 63.133(a)(2).	None	None	§ 63.146(b)(2) § 63.146(b)(5) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) § 63.152(c)(1) § 63.152(c)(4)(ii)
TK-8002X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-8003X	EU	R5112	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	[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)
						vapor pressure less than 1.5 psia is exempt from the requirements of this division.			
TK-8101	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
TK-9603X	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
Z-7001	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None
Z-7002	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(6)(A) § 115.118(a)(7)	None
Z-7401	EU	R5112	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	[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)
						vapor pressure less than 1.5 psia is exempt from the requirements of this division.			
Z-8011	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.111(a)(1)	Except as provided in § 115.118, a storage tank storing VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division.	[G]§ 115.117	§ 115.118(a)(1) § 115.118(a)(5) § 115.118(a)(7)	None
HONWWTP	PRO	63G-CA	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.138(a)(7)(i)(A) [G]§ 63.132(f) § 63.139(b) § 63.139(c)(2) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.172(a) [G]§ 63.172(h) § 63.172(i)	For combinations of treatment processes or control devices, the wastewater stream or vented gas stream shall be conveyed by hard-piping between the treatment processes or control devices.	§ 63.138(a)(7)(i)(D) § 63.138(j)(1) § 63.139(d)(2)(vi) § 63.139(e) § 63.143(e) § 63.143(e)(2) § 63.143(f) § 63.143(g) § 63.145(a) § 63.145(a)(1) § 63.145(a)(2) [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)	§ 63.138(a)(7)(i)(C) § 63.138(j)(1) § 63.143(e)(2) § 63.143(f) § 63.147(b) § 63.147(b)(2) § 63.147(b)(5) § 63.147(b)(7) § 63.147(d) § 63.147(d)(3) [G]§ 63.147(d)(3)(i) [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)	§ 63.138(a)(7)(i)(C) § 63.146(b)(2) § 63.146(b)(4) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(b)(9) § 63.146(b)(9)(i) § 63.146(e) § 63.146(e)(2) [G]§ 63.152(a) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6) [G]§ 63.182(a) [G]§ 63.182(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)
									§ 63.182(c) [G]§ 63.182(c)(1) § 63.182(c)(4) [G]§ 63.182(d)
HONWWTP	PRO	63G-TO	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.138(a)(7)(i)(A) [G]§ 63.132(f) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(i) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.172(a) [G]§ 63.172(h) § 63.172(i)	For combinations of treatment processes or control devices, the wastewater stream or vented gas stream shall be conveyed by hard-piping between the treatment processes or control devices.	§ 63.138(a)(7)(i)(D) § 63.138(j)(1) § 63.139(d)(2)(i) § 63.139(e) § 63.143(e) § 63.143(e)(1) § 63.143(f) § 63.143(g) § 63.145(a) § 63.145(a)(1) § 63.145(a)(2) [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)	§ 63.138(a)(7)(i)(C) § 63.138(j)(1) § 63.146(e) § 63.146(e)(1) § 63.147(b) § 63.147(b)(7) [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)	§ 63.138(a)(7)(i)(C) § 63.138(j)(1) § 63.146(b)(2) § 63.146(b)(4) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(b)(9) § 63.146(b)(9)(i) [G]§ 63.152(a) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
T-8201	PRO	63G-1	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.138(a)(7)(i)(A) § 63.11 [G]§ 63.132(f) § 63.139(b) § 63.139(c)(3)	For combinations of treatment processes or control devices, the wastewater stream or vented gas stream shall be conveyed	§ 63.138(a)(7)(i)(D) § 63.138(j)(1) § 63.139(d)(3) § 63.139(e) § 63.143(e)	§ 63.138(a)(7)(i)(C) § 63.138(j)(1) § 63.145(a)(3) [G]§ 63.145(a)(4) § 63.147(b)	§ 63.138(a)(7)(i)(C) § 63.146(b)(2) § 63.146(b)(4) § 63.146(b)(6) § 63.146(b)(7)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) [G]§ 63.145(j) § 63.172(a) [G]§ 63.172(h) § 63.172(i)	by hard-piping between the treatment processes or control devices.	§ 63.143(e)(1) § 63.143(g) § 63.145(a) § 63.145(a)(1) [G]§ 63.145(j) [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)	§ 63.147(b)(2) § 63.147(b)(5) § 63.147(b)(7) § 63.147(d) § 63.147(d)(1) [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]§ 63.146(b)(7)(i) § 63.146(b)(9) § 63.146(b)(9)(i) § 63.146(e) § 63.146(e)(1) [G]§ 63.152(a) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
D-2503X	EU	R5112-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-8009AX	EU	R151-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	None
D-8009AX	EU	61FF-CA	BENZENE	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b)	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors	§ 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e)	§ 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2)	None

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(ii) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	vented from the oil-water separator to a control device.	§ 61.349(f) § 61.354(d) [G]§ 61.355(h)	§ 61.356(f)(2)(i) § 61.356(f)(2)(i)(G) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(10) § 61.356(j)(2) § 61.356(j)(3)	
D-8009AX	EU	61FF-TO	BENZENE	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
D-8009AX	EU	63G-CA	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.137(a)(1) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.137(b)(1)(ii) § 63.137(d) § 63.137(e)(3) § 63.137(f) § 63.139(b) § 63.139(c)(2) § 63.139(f) § 63.140(a) § 63.140(b)	A fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors vented from the oil-water separator to a control device and which meets §63.137(b).	[G]§ 63.137(e)(1) § 63.137(e)(2) § 63.137(e)(3) § 63.139(d)(2)(vi) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(2) § 63.143(f) § 63.143(g) § 63.145(a)(2) [G]§ 63.172(f)(1) [G]§ 63.172(f)(2)	§ 63.143(e)(2) § 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(d) § 63.147(d)(3) [G]§ 63.147(d)(3)(i) [G]§ 63.152(a) [G]§ 63.172(k) [G]§ 63.172(l) § 63.181(a)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(2) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1)

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Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h) § 63.172(i)		§ 63.172(g) [G]§ 63.172(h) [G]§ 63.172(k) [G]§ 63.172(l) [G]§ 63.180(b) [G]§ 63.180(d)	[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)	§ 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
D-8009AX	EU	63G-TO	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.137(a)(1) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.137(b)(1)(ii) § 63.137(d) § 63.137(e)(3) § 63.137(f) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(i) § 63.139(f) § 63.140(a) § 63.140(b)	A fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors vented from the oil-water separator to a control device and which meets §63.137(b).	[G]§ 63.137(e)(1) § 63.137(e)(2) § 63.137(e)(3) § 63.139(d)(2)(i) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(1) § 63.143(f) § 63.143(g) § 63.145(a) § 63.145(a)(2) [G]§ 63.172(f)(1) [G]§ 63.172(f)(2)	§ 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(d) [G]§ 63.152(a) [G]§ 63.152(f) [G]§ 63.172(k) [G]§ 63.172(l) § 63.181(a) [G]§ 63.181(b) § 63.181(c) [G]§ 63.181(d)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h) § 63.172(i)		§ 63.172(g) [G]§ 63.172(h) [G]§ 63.172(k) [G]§ 63.172(l) [G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(g) § 63.181(g)(1)(i) § 63.181(g)(1)(ii) [G]§ 63.181(g)(2) [G]§ 63.181(g)(3)	§ 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
D-8009BX	EU	R151-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	None
D-8009BX	EU	61FF-CA	BENZENE	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii)	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(d) [G]§ 61.355(h)	§ 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(G) § 61.356(g) § 61.356(h)	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)
					§ 61.349(a)(1)(iv) § 61.349(a)(2)(ii) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)			§ 61.356(j) § 61.356(j)(1) § 61.356(j)(10) § 61.356(j)(2) § 61.356(j)(3)	
D-8009BX	EU	61FF-TO	BENZENE	40 CFR Part 61, Subpart FF	§ 61.347(a)(1) § 61.347(a)(1)(i)(A) § 61.347(a)(1)(i)(B) § 61.347(b) § 61.347(c) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(A) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	Install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.	§ 61.347(a)(1)(i)(A) § 61.347(b) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
D-8009BX	EU	63G-CA	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.137(a)(1) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.137(b)(1)(ii) § 63.137(d) § 63.137(e)(3) § 63.137(f) § 63.139(b) § 63.139(c)(2) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h)	A fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors vented from the oil-water separator to a control device and which meets §63.137(b).	[G]§ 63.137(e)(1) § 63.137(e)(2) § 63.137(e)(3) § 63.139(d)(2)(vi) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(2) § 63.143(f) § 63.143(g) § 63.145(a)(2) [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)	§ 63.143(e)(2) § 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(d) § 63.147(d)(3) [G]§ 63.147(d)(3)(i) [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)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(2) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.172(i)		[G]§ 63.180(b) [G]§ 63.180(d)	§ 63.181(g)(1)(i) § 63.181(g)(1)(ii) [G]§ 63.181(g)(2) [G]§ 63.181(g)(3)	§ 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
D-8009BX	EU	63G-TO	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.137(a)(1) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.137(b)(1)(ii) § 63.137(d) § 63.137(e)(3) § 63.137(f) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(i) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) § 63.172(a) [G]§ 63.172(h)	A fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors vented from the oil-water separator to a control device and which meets §63.137(b).	[G]§ 63.137(e)(1) § 63.137(e)(2) § 63.137(e)(3) § 63.139(d)(2)(i) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(1) § 63.143(f) § 63.143(g) § 63.145(a) § 63.145(a)(2) [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)	§ 63.143(f) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(5) § 63.147(d) [G]§ 63.152(a) [G]§ 63.152(f) [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)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(b)(7) § 63.146(b)(7)(ii) § 63.146(b)(7)(ii)(A) § 63.146(b)(7)(ii)(B) § 63.146(c) § 63.146(e) § 63.146(e)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(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)
					§ 63.172(i)		[G]§ 63.180(b) [G]§ 63.180(d)	[G]§ 63.181(g)(3)	[G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 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)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [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)
D-8010X	EU	R151-B	VOC	30 TAC Chapter 115, Water Separation	§ 115.132(a)(3) § 115.131(a)	VOC water separator compartments must be equipped with a vapor recovery system which satisfies the provisions of §115.131(a) of this title.	[G]§ 115.135(a) § 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	§ 115.136(a)(2) § 115.136(a)(2)(A) § 115.136(a)(3) § 115.136(a)(4)	None

Additional Monitoring Requirements

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CAM Summary

Unit/Group/Process Information	
ID No.: N-19	
Control Device ID No.: X-5702	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-D
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Oxygen concentration.	
Minimum Frequency: 4 times per hour.	
Averaging Period: One hour.	
Deviation Limit: O2 concentration less than 0.8% or greater than 20% when receiving vent streams.	
CAM Text: Use a continuous emission monitoring system (CEMS) to measure and record the concentration of oxygen in the exhaust stream. The CEMS shall be operated in accordance with the monitoring requirements of 40 CFR § 60.13 and the performance specifications of 40 CFR Part 60, Appendix B.	

CAM Summary

Unit/Group/Process Information	
ID No.: N-19	
Control Device ID No.: X-5702	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5121-D
Pollutant: VOC	Main Standard: § 115.121(a)(2)
Monitoring Information	
Indicator: Combustion temperature.	
Minimum Frequency: 4 times per hour.	
Averaging Period: One hour.	
Deviation Limit: When receiving vent streams, it shall be considered a deviation if the combustion temperature shall be less than 1800 degrees F.	
CAM Text: Two thermocouples shall be installed. One in or immediately downstream of the combustion chamber and one in the stack. Each thermocouple shall be calibrated during every planned unit shut down and shall be accurate to within the greater of the following: 1% of the temperature being measured expressed in degrees Celsius; or 0.5 degrees Celsius. The readings of the two thermocouples shall be compared at least quarterly during normal operation and, except during periods of startup or immediately following startup, shall not differ by more than 40 degrees Fahrenheit. Two thermocouples shall be installed to provide redundancy in assessing the firebox temperature; one in or immediately downstream of the combustion chamber and one in the stack.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-16	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Presence of visible emissions of 15% opacity (Method 9).	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-20A	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once/quarter	
Averaging Period: n/a	
Deviation Limit: Presence of visible emissions or 15 % Opacity if Method 9 is used	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-20B	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once/quarter	
Averaging Period: n/a	
Deviation Limit: Presence of visible emissions or 15 % Opacity if Method 9 is used	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-24A	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once/quarter	
Averaging Period: n/a	
Deviation Limit: Presence of visible emissions or 15 % Opacity if Method 9 is used	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-24B	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once/quarter	
Averaging Period: n/a	
Deviation Limit: Presence of visible emissions or 15 % Opacity if Method 9 is used	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: N-9	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-1
Pollutant: OPACITY	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once per quarter	
Averaging Period: n/a	
Deviation Limit: Visible emissions exceed 15% opacity.	
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. If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If a Test Method 9 is performed, the opacity limit is the corresponding opacity limit associated with the particulate matter standard in the underlying applicable requirement. If there is no corresponding opacity limit in the underlying applicable requirement, the maximum opacity will be established using the most recent performance test. If the result of the Test Method 9 is opacity above the corresponding opacity limit (associated with the particulate matter standard in the underlying applicable requirement or as identified as a result of a previous performance test to establish the maximum opacity limit), the permit holder shall report a deviation.	

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		
B-7240	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel-fired steam generator.
B-7240	N/A	40 CFR Part 60, Subpart Dc	The maximum design heat input capacity is greater than 100 MMBtu/hr.
B-7280	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel-fired steam generator.
B-7290	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel-fired steam generator.
GRPHRSG	HRSG-1, HRSG-2	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel-fired steam generator.
GRPHRSG	HRSG-1, HRSG-2	40 CFR Part 60, Subpart Dc	The maximum design heat input capacity is greater than 100 MMBtu/hr.
GRPHRSG	HRSG-1, HRSG-2	40 CFR Part 63, Subpart DDDDD	Waste heat boilers are also referred to as heat recovery steam generators and are not included in the definition of boiler which is an affected source of this subpart.
F-2	N/A	40 CFR Part 61, Subpart L	The cooling tower is not located at a coke by-product recovery plant
F-2	N/A	40 CFR Part 63, Subpart Q	The cooling tower is not operated with chromium-based water treatment chemicals.
F-2	N/A	40 CFR Part 63, Subpart YY	The unit complies with the heat exchange requirements of 40 CFR Part 63, Subpart F.

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		
F-2A	N/A	40 CFR Part 61, Subpart L	The cooling tower is not located at a coke by-product recovery plant.
F-2A	N/A	40 CFR Part 63, Subpart Q	The cooling tower is not operated with chromium based water treatment chemicals.
F-2A	N/A	40 CFR Part 63, Subpart YY	The unit complies with the heat exchange requirements of 40 CFR Part 63, Subpart F.
N-10	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
N-10	N/A	40 CFR Part 63, Subpart DD	The plant site is not off-site waste and recovery operation.
N-10	N/A	40 CFR Part 63, Subpart G	The vent does not originate as a continuous flow from an air oxidation reactor, distillation unit, or reactor during operation of the chemical manufacturing process unit.
N-15	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
N-15	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
N-15	N/A	40 CFR Part 63, Subpart G	The flare does not receive streams from a process subject to this subpart.
N-15	N/A	40 CFR Part 63, Subpart YY	All affected vents to the flare are not continuous.

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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		
N-15A	N/A	40 CFR Part 63, Subpart G	The flare does not receive streams from a process subject to this subpart.
N-15A	N/A	40 CFR Part 63, Subpart YY	All affected vents to the flare are not continuous.
N-19	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
N-19	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
N-19	N/A	40 CFR Part 63, Subpart YY	The unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart G.
N-20A	N/A	30 TAC Chapter 115, Vent Gas Controls	The unit is not being used as a control device for an applicable vent gas stream which originates from a non-combustion source.
N-20A	N/A	40 CFR Part 63, Subpart G	The vent does not originate from a distillation or reaction operation.
N-20B	N/A	30 TAC Chapter 115, Vent Gas Controls	The unit is not being used as a control device for an applicable vent gas stream which originates from a non-combustion source.
N-20B	N/A	40 CFR Part 63, Subpart G	The vent does not originate from a distillation or reaction operation.
N-22	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.

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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		
N-22	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
N-22	N/A	40 CFR Part 63, Subpart YY	The unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart G.
X-5702	N/A	30 TAC Chapter 111, Incineration	The incinerator does combust solid waste, is not a medical waste incinerator, does not accept hazardous waste as fuel from off-site sources, and does not qualify as a commercial combustion facility.
X-5702	N/A	40 CFR Part 60, Subpart E	The incinerator does not combust municipal type waste
X-5702	N/A	40 CFR Part 60, Subpart O	The incinerator is not located at a sewage treatment plant.
X-5702	N/A	40 CFR Part 61, Subpart C	The incinerator does not process beryllium containing waste
X-5702	N/A	40 CFR Part 61, Subpart E	The incinerator does not use a mercury chlor-alkali cell and does not incinerate wastewater treatment plant sludge.
X-8501	N/A	40 CFR Part 60, Subpart A	Flare does not control a source subject to another subpart of 40 CFR Part 60.
X-8501	N/A	40 CFR Part 63, Subpart A	The flare is not required by a subpart under 40 CFR 63.
F-1	N/A	30 TAC Chapter 115, Fugitives Pet Ref B Counties	The process unit is not located in Gregg, Nueces, or Victoria County.

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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		
F-1	N/A	40 CFR Part 60, Subpart DDD	The process unit does not produce polymers.
F-1	N/A	40 CFR Part 60, Subpart GGG	The process unit is not a petroleum refinery.
F-1	N/A	40 CFR Part 60, Subpart KKK	The process unit is not an onshore natural gas processing plant.
F-1	N/A	40 CFR Part 61, Subpart F	The process unit does not produce ethylene dichloride, vinyl chloride, or any other polymer.
F-1	N/A	40 CFR Part 61, Subpart J	The process unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart YY.
F-1	N/A	40 CFR Part 61, Subpart V	The process unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart YY.
F-1	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
F-1	N/A	40 CFR Part 63, Subpart H	The process unit is not subject to a Subpart which references Subpart H because it does not meet the criteria in 63.100(b) or 63.190(b).
F-1	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
F-1	N/A	40 CFR Part 63, Subpart I	The process unit does not meet the criteria in 63.190(b).
F-4	N/A	30 TAC Chapter 115, Fugitives	The process unit is not located in Gregg, Nueces, or

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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		
		Pet Ref B Counties	Victoria County.
F-4	N/A	40 CFR Part 60, Subpart DDD	The process unit does not produce polymers.
F-4	N/A	40 CFR Part 60, Subpart GGG	The process unit is not a petroleum refinery.
F-4	N/A	40 CFR Part 60, Subpart KKK	The process unit is not an onshore natural gas processing plant.
F-4	N/A	40 CFR Part 61, Subpart F	The process unit does not produce ethylene dichloride, vinyl chloride, or any other polymer.
F-4	N/A	40 CFR Part 61, Subpart J	The process unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart G.
F-4	N/A	40 CFR Part 61, Subpart V	The process unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart G.
F-4	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
F-4	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
F-4	N/A	40 CFR Part 63, Subpart I	The process unit does not meet the criteria in 63.190(b).
F-4	N/A	40 CFR Part 63, Subpart YY	The process unit complies with the equipment leak requirements of 40 CFR Part 63, Subpart H.
DEGREASER	MOD16, MOD18	40 CFR Part 63, Subpart T	The solvent cleaning machine does not use any

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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		
			applicable solvent in a total concentration > 5wt%.
FURN-AMM	N/A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Not a VOC fugitive source.
GRPINORGSV	D-1801, D-7201X, D-7202X, TK-2401, TK-27063, TK-290410, TK-7001, TK-7401, TK-7402X, TK-7601, TK-7701, TK-7702, TK-9601, TK-9602, TK-9602X, TK-9604X, TK-9605X, TK-9607X, TK-9608, TK-9805AX, TK-9806X	30 TAC Chapter 115, Storage of VOCs	Does not store VOC.
GRPINORGSV	D-1801, D-7201X, D-7202X, TK-2401, TK-27063, TK-290410, TK-7001, TK-7401, TK-7402X, TK-7601, TK-7701, TK-7702, TK-9601, TK-9602, TK-9602X, TK-9604X, TK-9605X, TK-9607X, TK-9608, TK-9805AX, TK-9806X	40 CFR Part 60, Subpart Kb	Storage vessel is not used to store organic liquids.

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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		
GRPSV1K	D-1301, D-1320X, D-2110AX, D-2110BX, D-2110CX, D-2220X, D-2502, D-2509(BX), D-2509AX, D-2510(BX), D-2510AX, D-2511(BX), D-2511AX, D-2512(BX), D-2512AX, D-2513(BX), D-2513AX, D-2514(BX), D-2514AX, D-2515AX, D-2515BX, D-2516AX, D-2516BX, D-2517AX, D-2517BX, D-2518AX, D-2518BX, D-3150X, D-3301, D-3610AX, D-3610BX, D-3610CX, D-3750X, D-3780X, D-3910AX, D-3910BX, D-4002, D-4102, D-4203, D-4502, D-4803, D-4804, D-5002, D-5504, D-5505, D-5506, D-5507, D-5509X, D-5550X, D-5602, D-5704, D-5705, D-5707, D-5708, D-5751, D-8201AX, D-8201BX, D-8507, TK-1401AX, TK-1401BX, TK-1501AX, TK-2502AX, TK-2502BX, TK-4202AX, TK-4202BX, TK-4202CX, TK-4804AX, TK-4804BX, TK-4804CX, TK-5510X, TK-7002X, TK-7003X, TK-7101AX, TK-7101BX, TK-7101CX, TK-8401AX, TK-8401BX, TK-9605, TK-9606X	30 TAC Chapter 115, Storage of VOCs	Storage vessel has a capacity less than or equal to 1000 gallons

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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		
GRPSV1K	D-1301, D-1320X, D-2110AX, D-2110BX, D-2110CX, D-2220X, D-2502, D-2509(BX), D-2509AX, D-2510(BX), D-2510AX, D-2511(BX), D-2511AX, D-2512(BX), D-2512AX, D-2513(BX), D-2513AX, D-2514(BX), D-2514AX, D-2515AX, D-2515BX, D-2516AX, D-2516BX, D-2517AX, D-2517BX, D-2518AX, D-2518BX, D-3150X, D-3301, D-3610AX, D-3610BX, D-3610CX, D-3750X, D-3780X, D-3910AX, D-3910BX, D-4002, D-4102, D-4203, D-4502, D-4803, D-4804, D-5002, D-5504, D-5505, D-5506, D-5507, D-5509X, D-5550X, D-5602, D-5704, D-5705, D-5707, D-5708, D-5751, D-8201AX, D-8201BX, D-8507, TK-1401AX, TK-1401BX, TK-1501AX, TK-2502AX, TK-2502BX, TK-4202AX, TK-4202BX, TK-4202CX, TK-4804AX, TK-4804BX, TK-4804CX, TK-5510X, TK-7002X, TK-7003X, TK-7101AX, TK-7101BX, TK-7101CX, TK-8401AX, TK-8401BX, TK-9605, TK-9606X	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.

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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		
GRPSV1K	D-1301, D-1320X, D-2110AX, D-2110BX, D-2110CX, D-2220X, D-2502, D-2509(BX), D-2509AX, D-2510(BX), D-2510AX, D-2511(BX), D-2511AX, D-2512(BX), D-2512AX, D-2513(BX), D-2513AX, D-2514(BX), D-2514AX, D-2515AX, D-2515BX, D-2516AX, D-2516BX, D-2517AX, D-2517BX, D-2518AX, D-2518BX, D-3150X, D-3301, D-3610AX, D-3610BX, D-3610CX, D-3750X, D-3780X, D-3910AX, D-3910BX, D-4002, D-4102, D-4203, D-4502, D-4803, D-4804, D-5002, D-5504, D-5505, D-5506, D-5507, D-5509X, D-5550X, D-5602, D-5704, D-5705, D-5707, D-5708, D-5751, D-8201AX, D-8201BX, D-8507, TK-1401AX, TK-1401BX, TK-1501AX, TK-2502AX, TK-2502BX, TK-4202AX, TK-4202BX, TK-4202CX, TK-4804AX, TK-4804BX, TK-4804CX, TK-5510X, TK-7002X, TK-7003X, TK-7101AX, TK-7101BX, TK-7101CX, TK-8401AX, TK-8401BX, TK-9605, TK-9606X	40 CFR Part 63, Subpart YY	The storage vessel has a capacity of less than 1,000 gallons.

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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		
N-14	N/A	30 TAC Chapter 115, Vent Gas Controls	The unit is not being used as a control device for an applicable vent gas stream which originates from a non-combustion source.
N-14	N/A	40 CFR Part 63, Subpart G	The vent does not originate from a distillation or reaction operation.
TK-3110X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-3110X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-3110X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-3110X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-3110X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-3110X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste recovery operation.
TK-3110X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-3110X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.

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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		
TK-3110X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-3110X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-3710X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-3710X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-3710X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace foundry coke-by product recovery plant.
TK-3710X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-3710X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-3710X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-3710X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-3710X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-3710X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT

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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		
			OO.
TK-3710X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-7403X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-7403X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-7403X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-7403X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-7403X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-7403X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-7403X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-7403X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-7403X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.

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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		
TK-7403X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-8002X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-8002X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-8002X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-8002X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-8002X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-8002X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-8002X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-8002X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-8002X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-8002X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline

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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		
			breakout station.
TK-8003X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-8003X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-8003X	N/A	40 CFR Part 61, Subpart L	The sources are not located at a furnace and foundry coke by-product recovery plant.
TK-8003X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-8003X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-8003X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-8003X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-8003X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-8003X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-8003X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.

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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		
TK-8101	N/A	40 CFR Part 60, Subpart Kb	Capacity of the vessel is less than 39,000 gallons with a vapor pressure less than 0.5 psia.
TK-8101	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-8101	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke byproduct recovery plant.
TK-8101	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-8101	N/A	40 CFR Part 63, Subpart CC	MACT CC does not apply to ethylene processes.
TK-8101	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-8101	N/A	40 CFR Part 63, Subpart G	The unit does not receive wastewater as defined in 63.101.
TK-8101	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-8101	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-8101	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-8101	N/A	40 CFR Part 63, Subpart YY	The item of equipment is not controlled less stringently

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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		
			than in Table 35 of Subpart G.
TK-9603X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
TK-9603X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-9603X	N/A	40 CFR Part 61, Subpart L	The sources are not located at a furnace and foundry coke by-product recovery plant.
TK-9603X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-9603X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-9603X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-9603X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-9603X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-9603X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-9603X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.

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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		
Z-7001	N/A	40 CFR Part 60, Subpart Kb	Capacity of the vessel is less than 39,900 gallons with a vapor pressure less than 0.5 psia. (exempt)
Z-7001	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
Z-7001	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke-by product recovery plant.
Z-7001	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
Z-7001	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
Z-7001	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
Z-7001	N/A	40 CFR Part 63, Subpart G	Tank contains organic HAP only as impurities.
Z-7001	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
Z-7001	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
Z-7001	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
Z-7002	N/A	40 CFR Part 60, Subpart Kb	Capacity of the vessel is less than 39,900 gallons with a

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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		
			vapor pressure less than 0.5 psia. (exempt)
Z-7002	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
Z-7002	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
Z-7002	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
Z-7002	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
Z-7002	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
Z-7002	N/A	40 CFR Part 63, Subpart G	Tank contains organic HAP only as impurities.
Z-7002	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
Z-7002	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
Z-7002	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
Z-8011	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage is less than 10,600 gallons.
Z-8011	N/A	40 CFR Part 60, Subpart	The facility is not located in a petroleum refinery.

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		
		QQQ	
Z-8011	N/A	40 CFR Part 61, Subpart L	The source is not located at furnace and foundry coke-by product recovery plant.
Z-8011	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
Z-8011	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
Z-8011	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
Z-8011	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
Z-8011	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
Z-8011	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
Z-8011	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
GRPHEATERS	H-0100, H-0200, H-0300, H-0400, H-0500, H-0600, H-0700, H-0800	30 TAC Chapter 112, Sulfur Compounds	The source is not a liquid fuel-fired combustion unit.
GRPHEATERS	H-0100, H-0200, H-0300, H-0400,	40 CFR Part 63, Subpart	These ethylene cracking furnaces are covered by MACT

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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		
	H-0500, H-0600, H-0700, H-0800	DDDDD	YY, and therefore exempt from Subpart DDDDD.
H-0900	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel-fired or a liquid fuel-fired steam generator.
H-0900	N/A	40 CFR Part 63, Subpart DDDDD	This ethylene cracking furnace is covered by MACT YY, and therefore exempt from Subpart DDDDD.
H-1000	N/A	30 TAC Chapter 112, Sulfur Compounds	The unit is not a solid fossil fuel fired or a liquid fuel fired steam generator.
H-1000	N/A	40 CFR Part 63, Subpart DDDDD	This ethylene cracking furnace is covered by MACT YY, and therefore exempt from Subpart DDDDD.
R-2501X	N/A	40 CFR Part 60, Subpart III	The vent stream in not from an air oxidation reactor.
DM-8401AX	N/A	40 CFR Part 63, Subpart ZZZZ	Unit is an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
DM-8401BX	N/A	40 CFR Part 63, Subpart ZZZZ	Unit is an existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
GTGENG-1	N/A	40 CFR Part 63, Subpart ZZZZ	Unit is an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
GTGENG-2	N/A	40 CFR Part 63, Subpart ZZZZ	Unit is an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major

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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		
			source of HAP emissions.
D-8001R	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.
D-8001R	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
D-8001R	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by product recovery plant.
D-8001R	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
D-8001R	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
D-8001R	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
D-8001R	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
D-8001R	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
D-8001R	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
D-8001R	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.

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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		
DSL-TK	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage is less than 10,600 gallons.
DSL-TK	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
DSL-TK	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
DSL-TK	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
DSL-TK	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
DSL-TK	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
DSL-TK	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
DSL-TK	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
DSL-TK	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
DSL-TK	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-2210X	N/A	40 CFR Part 60, Subpart Kb	Capacity of storage vessel is less than 10,600 gallons.

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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		
TK-2210X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-2210X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-2210X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-2210X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-2210X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-2210X	N/A	40 CFR Part 63, Subpart G	Tank does not meet HON definition of storage vessel because capacity is less than 38 cubic meters.
TK-2210X	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-2210X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-2210X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-2501	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.

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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		
TK-2501	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-2501	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
TK-2501	N/A	40 CFR Part 63, Subpart CC	MACT CC does not apply to ethylene processes.
TK-2501	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-2501	N/A	40 CFR Part 63, Subpart G	Tank contains organic HAP only as impurities.
TK-2501	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-2501	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO
TK-2501	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
TK-2501	N/A	40 CFR Part 63, Subpart YY	Tank contains organic HAP only as impurities.
TK-8001	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
TK-8001	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by-product recovery plant.
TK-8001	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial

Permit Shield

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Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
			grade benzene.
TK-8001	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
TK-8001	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
TK-8001	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
TK-8001	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
TK-8001	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
Z-7401	N/A	40 CFR Part 60, Subpart Kb	Capacity of the storage vessel is greater than 19,800 gallons and less than 39,900 gallons with a vapor pressure less than 2.2 psia. (exempt)
Z-7401	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
Z-7401	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke-product recovery plant.
Z-7401	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.

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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		
Z-7401	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
Z-7401	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.
Z-7401	N/A	40 CFR Part 63, Subpart G	Equipment does not contain organic HAP.
Z-7401	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
Z-7401	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
Z-7401	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
D-8009AX	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
D-8009AX	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by- product recovery plant.
D-8009AX	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
D-8009AX	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
D-8009AX	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery

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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		
			operation.
D-8009AX	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
D-8009AX	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO
D-8009AX	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
D-8009AX	N/A	40 CFR Part 63, Subpart VV	The facility does not control emissions from organic-water separators for which another subpart references MACT VV.
D-8009AX	N/A	40 CFR Part 63, Subpart YY	The unit is complying with 40 CFR Part 63, Subpart G.
D-8009BX	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
D-8009BX	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by product recovery plant.
D-8009BX	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
D-8009BX	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
D-8009BX	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery

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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		
			operation.
D-8009BX	N/A	40 CFR Part 63, Subpart HH	The plant is not an oil and natural gas production facility.
D-8009BX	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
D-8009BX	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.
D-8009BX	N/A	40 CFR Part 63, Subpart VV	The facility does not control emission from organic-water separators for which another subpart references MACT VV.
D-8010X	N/A	40 CFR Part 60, Subpart QQQ	The facility is not located in a petroleum refinery.
D-8010X	N/A	40 CFR Part 61, Subpart L	The source is not located at a furnace and foundry coke by product recovery plant.
D-8010X	N/A	40 CFR Part 61, Subpart Y	This storage vessel does not store refined or industrial grade benzene.
D-8010X	N/A	40 CFR Part 63, Subpart CC	The ethylene cracking unit does not engage in petroleum refining and has an SIC code of 2869.
D-8010X	N/A	40 CFR Part 63, Subpart DD	The plant site is not an off-site waste and recovery operation.

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-8010X	N/A	40 CFR Part 63, Subpart HH	The plant is not all an oil and natural gas production facility.
D-8010X	N/A	40 CFR Part 63, Subpart OO	Another applicable subpart does not reference MACT OO.
D-8010X	N/A	40 CFR Part 63, Subpart R	Plant is not a bulk gasoline terminal or pipeline breakout station.

New Source Review Authorization References

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New Source Review Authorization References by Emission Unit..... 118

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.

Prevention of Significant Deterioration (PSD) Permits	
PSD Permit No.: PSDTX903M5	Issuance Date: 07/23/2013
Nonattainment (NA) Permits	
NA Permit No.: N007M1	Issuance Date: 07/23/2013
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 36644	Issuance Date: 07/23/2013
Authorization No.: 81912	Issuance Date: 05/15/2008
Authorization No.: 84227	Issuance Date: 03/05/2008
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.261	Version No./Date: 09/04/2000
Number: 106.262	Version No./Date: 09/04/2000
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.371	Version No./Date: 09/04/2000
Number: 106.454	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.478	Version No./Date: 09/04/2000

New Source Review Authorization References

Prevention of Significant Deterioration (PSD) Permit for GHG Emissions	
PSD Permit No.: PSDTX903GHG	Issuance Date: 08/24/2012

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
B-7240	AUXILIARY BOILER	36644, N007M1, PSDTX903M5
B-7280	PACKAGE BOILER	36644, N007M1, PSDTX903M5
B-7290	PACKAGE BOILER	36644, N007M1, PSDTX903M5
BOIL-AMM	BOILERS NH3 INJECTION SYSTEM FUGITIVES	36644, N007M1, PSDTX903M5
COG-AMM-1	STORAGE TANK AND VAPORIZER FUGITIVES	36644, N007M1, PSDTX903M5
COG-AMM-2	GTG/HRSG UNIT 2 SCR FUGITIVES	36644, N007M1, PSDTX903M5
COG-AMM-3	GTG/HRSG UNIT 1 SCR FUGITIVES	36644, N007M1, PSDTX903M5
D-1301	DMDS DRUM	36644, N007M1, PSDTX903M5
D-1320X	LIQUID RECOVERY TANK	36644, N007M1, PSDTX903M5
D-1801	DECOKING EFFLUENT SEPARATOR	36644, N007M1, PSDTX903M5
D-2110AX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-2110BX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-2110CX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-2220X	LUBE OIL OVERHEAD RUNDOWN TANK	36644, N007M1, PSDTX903M5
D-2502	SPENT GASOLINE COALESCER	36644, N007M1, PSDTX903M5
D-2503X	CAUSTIC OXIDIZER EFFLUENT SEPARATOR	36644, N007M1, PSDTX903M5
D-2509(BX)	1ST STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2509AX	1ST STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5

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
D-2510(BX)	1ST STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2510AX	1ST STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2511(BX)	2ND STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2511AX	2ND STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2512(BX)	2ND STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2512AX	2ND STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2513(BX)	3RD STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2513AX	3RD STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2514(BX)	3RD STAGE DISCHARE BOTTLE	36644, N007M1, PSDTX903M5
D-2514AX	3RD STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2515AX	4TH STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2515BX	4TH STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2516AX	4TH STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2516BX	4TH STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2517AX	5TH STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2517BX	5TH STAGE SUCTION BOTTLE	36644, N007M1, PSDTX903M5
D-2518AX	5TH STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5
D-2518BX	5TH STAGE DISCHARGE BOTTLE	36644, N007M1, PSDTX903M5

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
D-3150X	LUBE OIL OVERHEAD RUNDOWN TANK	36644, N007M1, PSDTX903M5
D-3301	HYDROGEN DRYER KO DRUM	36644, N007M1, PSDTX903M5
D-3610AX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-3610BX	ACCUMLATOR	36644, N007M1, PSDTX903M5
D-3610CX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-3750X	LUBE OIL OVERHEAD RUNBOWN TANK	36644, N007M1, PSDTX903M5
D-3780X	LUBE OIL OVERHEAD RUNDOWN TANK	36644, N007M1, PSDTX903M5
D-3910AX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-3910BX	ACCUMULATOR	36644, N007M1, PSDTX903M5
D-4002	CONDENSATE POT FOR E-4002	36644, N007M1, PSDTX903M5
D-4102	CONDENSATE POT FOR E-4102	36644, N007M1, PSDTX903M5
D-4203	LIQUID PROPYLENE ACCUMULATOR FOR E-4203	36644, N007M1, PSDTX903M5
D-4502	CONDENSATE POT FOR E-4501A/B	36644, N007M1, PSDTX903M5
D-4803	PROPANE RECYCLE DRUM	36644, N007M1, PSDTX903M5
D-4804	REFINERY PROPANE VAPORIZER DRUM	36644, N007M1, PSDTX903M5
D-5002	CONDENSATE POT FOR E-5001A/B	36644, N007M1, PSDTX903M5
D-5504	2ND STAGE RECYCLE GAS KO DRUM	36644, N007M1, PSDTX903M5
D-5505	STABILIZER REFLUX DRUM	36644, N007M1, PSDTX903M5

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
D-5506	DEPENTANIZER REBOILER CONDENSATE DRUM	36644, N007M1, PSDTX903M5
D-5507	STABILIZER REBOILER CONDENSATE DRUM	36644, N007M1, PSDTX903M5
D-5509X	NAPHTHA ADDITIVE DRUM	36644, N007M1, PSDTX903M5
D-5550X	LUBE OIL OVERHEAD RUNDOWN TANK	36644, N007M1, PSDTX903M5
D-5602	PREDISTILLATION REBOILER CONDENSATE DRUM	36644, N007M1, PSDTX903M5
D-5704	SOLVENT SLOP DRUM	36644, N007M1, PSDTX903M5
D-5705	ED REBOILER COND. DRUM	36644, N007M1, PSDTX903M5
D-5707	STRIPPER TOP REBOILER CONDENSATE DRUM	36644, N007M1, PSDTX903M5
D-5708	SPLITTER REBOILER CONDENSATE DRUM	36644, N007M1, PSDTX903M5
D-5751	SOLVENT REGENERATION DRUM	36644, N007M1, PSDTX903M5
D-7201X	DEAERATOR STRIPPER	36644, N007M1, PSDTX903M5
D-7202X	DEAERATOR TANK	36644, N007M1, PSDTX903M5
D-8001R	SPENT CAUSTIC DRAIN NEUTRALIZATION TANK	36644, N007M1, PSDTX903M5
D-8009AX	W W CPI OIL / WATER SEPARATOR	36644, N007M1, PSDTX903M5
D-8009BX	W W CPI / OIL WATER SEPARATOR	36644, N007M1, PSDTX903M5
D-8010X	INDUCED GAS FLOATATION (IGF) TANK	36644, N007M1, PSDTX903M5
D-8201AX	STEAM STRIPPER OVERHEAD REFLUX DRUM	36644, N007M1, PSDTX903M5
D-8201BX	STEAM STRIPPER OVERHEAD REFLUX DRUM	36644, N007M1, PSDTX903M5

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
D-8507	FLARE MANIFOLD DRAIN BLOWCASE	36644, N007M1, PSDTX903M5
DM-8401AX	FIRE PUMP DIESEL ENGINE	36644, N007M1, PSDTX903M5
DM-8401BX	FIRE PUMP DIESEL ENGINE	36644, N007M1, PSDTX903M5
DSL-TK	DIESEL STORAGE TANK	106.473/09/04/2000
F-1	FUGITIVES	36644, N007M1, PSDTX903M5
F-2A	COOLING TOWER	106.371/09/04/2000
F-2	COOLING TOWER	36644, N007M1, PSDTX903M5
F-4	BENZENE EXTRACTION EQUIPMENT LEAKS	36644, N007M1, PSDTX903M5
F-5	C4 HUNTSMAN PIPELINE FUGITIVES	36644, N007M1, PSDTX903M5
FURN-AMM	CRACKING FURNACE NH3 INJECTION SYSTEM FUGITIVES	36644, N007M1, PSDTX903M5
GTG-1	GAS TURBINE	36644, N007M1, PSDTX903M5
GTG-2	GAS TURBINE	36644, N007M1, PSDTX903M5
GTGENG-1	DIESEL START ENGINE A	36644, N007M1, PSDTX903M5
GTGENG-2	DIESEL START ENGINE B	36644, N007M1, PSDTX903M5
H-0100	SRT III RECYCLE ETHANE CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0200	SRT VI FRESH FEED CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0300	SRT VI FRESH FEED CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0400	SRT VI FRESH FEED CRACKING HEATER	36644, N007M1, PSDTX903M5

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
H-0500	SRT VII LIQUID CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0600	SRT VI LIQUID CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0700	SRT VI LIQUID CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0800	SRT VI LIQUID CRACKING HEATER	36644, N007M1, PSDTX903M5
H-0900	CRACKING FURNACE NO. 9	36644, N007M1, PSDTX903M5
H-1000	CRACKING FURNACE NO. 10	36644, N007M1, PSDTX903M5
HONWWTP	HON WASTEWATER TREAMENT SYSTEM	36644, N007M1, PSDTX903M5
HRSG-1	HEAT RECOVERY STEAM GENERATOR 1	36644, N007M1, PSDTX903M5
HRSG-2	HEAT RECOVERY STEAM GENERATOR 2	36644, N007M1, PSDTX903M5
LOADRACKS	LOAD RACKS	36644, N007M1, PSDTX903M5
MOD16	DEGREASER	106.454/09/04/2000
MOD18	DEGREASER	106.454/09/04/2000
N-10	CATALYST REGEN EFFLUENT	36644, N007M1, PSDTX903M5
N-11	REACTOR REGENERATION EFFLUENT VENT	36644, N007M1, PSDTX903M5
N-12	STACK FOR DP REACTOR FEED HEATER	36644, N007M1, PSDTX903M5
N-13	STACK FOR DP REACTOR REGENERATION HEATER	36644, N007M1, PSDTX903M5
N-14	AUXILIARY BOILER VENT	36644, N007M1, PSDTX903M5
N-15A	ENCLOSED FLARE VENT HEADER	36644, N007M1, PSDTX903M5

New Source Review Authorization References by Emissions Unit

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Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
N-15	GROUND FLARE	36644, N007M1, PSDTX903M5
N-16	STACK FOR CRACKING FURNACE NO. 10	36644, N007M1, PSDTX903M5
N-18	DECOKING DRUM VENT	36644, N007M1, PSDTX903M5
N-19	THERMAL OXIDIZER	36644, N007M1, PSDTX903M5
N-1	STACK FOR CRACKING HEATER 1	36644, N007M1, PSDTX903M5
N-20A	HRSG-1 VENT	36644, N007M1, PSDTX903M5
N-20B	HRSG-2 VENT	36644, N007M1, PSDTX903M5
N-21A	FIRE PUMP DIESEL ENGINE STACK	36644, N007M1, PSDTX903M5
N-21B	FIRE PUMP DIESEL ENGINE STACK	36644, N007M1, PSDTX903M5
N-22	CARBON ADSORPTION SYSTEM	36644, N007M1, PSDTX903M5
N-23	AMMONIA SCRUBBER VENT	36644, N007M1, PSDTX903M5
N-24A	PACKAGE BOILER STACK	36644, N007M1, PSDTX903M5
N-24B	PACKAGE BOILER STACK	36644, N007M1, PSDTX903M5
N-2	STACK FOR CRACKING HEATER 2	36644, N007M1, PSDTX903M5
N-3	STACK FOR CRACKING HEATER 3	36644, N007M1, PSDTX903M5
N-4	STACK FOR CRACKING HEATER 4	36644, N007M1, PSDTX903M5
N-5	STACK FOR CRACKING HEATER 5	36644, N007M1, PSDTX903M5
N-6	STACK FOR CRACKING HEATER 6	36644, N007M1, PSDTX903M5

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
N-7	STACK FOR CRACKING HEATER 7	36644, N007M1, PSDTX903M5
N-8	STACK FOR CRACKING HEATER 8	36644, N007M1, PSDTX903M5
N-9	STACK FOR CRACKING FURNACE NO. 9	36644, N007M1, PSDTX903M5
R-2501X	SPENT CAUSTIC OXIDIZER REACTOR	36644, N007M1, PSDTX903M5
T-3101	DEMETHANIZER	36644, N007M1, PSDTX903M5
T-5702	STRIPPER TOWER	36644, N007M1, PSDTX903M5
T-5703	SPLITTER TOWER	36644, N007M1, PSDTX903M5
T-8201	WASTEWATER STRIPPER	36644, N007M1, PSDTX903M5
TK-1401AX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-1401BX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-1501AX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-1701	POLYMERIZATION INHIBITOR TANK-GE	106.478/09/04/2000
TK-1702	OIL BASED ANTIFOULANT TANK-GE	106.472/09/04/2000
TK-1703	POLYMERIZATION INHIBITOR TANK-GE	106.472/09/04/2000
TK-1704	WATER BASED NEUTRALIZING AGENT TANK-GE	106.478/09/04/2000
TK-2210X	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-2401	20% CAUSTIC STORAGE TANK	36644, N007M1, PSDTX903M5
TK-2501	SPENT CAUSTIC STORAGE TANK	36644, N007M1, PSDTX903M5

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
TK-2502AX	LUBE OIL STORAGE TANK	36644, N007M1, PSDTX903M5
TK-2502BX	LUBE OIL STORAGE TANK	36644, N007M1, PSDTX903M5
TK-27063	PHOSPHATE TANK W/HTP-73612 PRODUCT	36644, N007M1, PSDTX903M5
TK-290410	PHOSPHATE TANK W/HTP-78302 PRODUCT	36644, N007M1, PSDTX903M5
TK-3110X	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-3710X	LUBE OIL RESERIVOR	36644, N007M1, PSDTX903M5
TK-4202AX	LUBE OIL RESERIVOR	36644, N007M1, PSDTX903M5
TK-4202BX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-4202CX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-4804AX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-4804BX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-4804CX	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-5510X	LUBE OIL RESERVOIR	36644, N007M1, PSDTX903M5
TK-7001	DEMINERALIZED WATER STORAGE TANK	36644, N007M1, PSDTX903M5
TK-7002X	ACID DAY TANK	36644, N007M1, PSDTX903M5
TK-7003X	CAUSTIC DAY TANK	36644, N007M1, PSDTX903M5
TK-7101AX	RESERVOIR	36644, N007M1, PSDTX903M5
TK-7101BX	RESERVOIR	36644, N007M1, PSDTX903M5

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
TK-7101CX	RESERVOIR	36644, N007M1, PSDTX903M5
TK-7401	FILTERED WATER CLEARWELL TANK	36644, N007M1, PSDTX903M5
TK-7402X	COAGULANT DOSING TANK	36644, N007M1, PSDTX903M5
TK-7403X	POLYMER DOSING TANK	36644, N007M1, PSDTX903M5
TK-7601	POTABLE WATER HEAD TANK	36644, N007M1, PSDTX903M5
TK-7701	50% CAUSTIC STORAGE TANK	36644, N007M1, PSDTX903M5
TK-7702	98% SULFURIC ACID STORAGE TANK	36644, N007M1, PSDTX903M5
TK-8001	WASTEWATER EQUALIZATION TANK	36644, 81912, 84227, N007M1, PSDTX903M5
TK-8002X	IGF CATION POLYMER INJECTION TANK	36644, N007M1, PSDTX903M5
TK-8003X	IGF ANION POLYMER INJECTION TANK	36644, N007M1, PSDTX903M5
TK-8101	CONTAMINATED STORMWATER HOLDING TANK	36644, N007M1, PSDTX903M5
TK-8401AX	DIESEL STORAGE TANK	36644, N007M1, PSDTX903M5
TK-8401BX	DIESEL STORAGE TANK	36644, N007M1, PSDTX903M5
TK-9601	SODIUM HYPOCHLORITE TANK	36644, N007M1, PSDTX903M5
TK-9602	PHOSPHATE MIX TANK	36644, N007M1, PSDTX903M5
TK-9602X	CORROSION INHIBITOR BULK TANK	36644, N007M1, PSDTX903M5
TK-9603X	DISPERSANT BULK TANK	36644, N007M1, PSDTX903M5
TK-9604X	PHOSPHATE BULK TANK	36644, N007M1, PSDTX903M5

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
TK-9605	ACID INJECTION TANK	36644, N007M1, PSDTX903M5
TK-9605X	OXYGEN SCAVENGER BULK TANK	36644, N007M1, PSDTX903M5
TK-9606X	AMINE BULK TANK	36644, N007M1, PSDTX903M5
TK-9607X	SODIUM BISULFITE BULK TANK	36644, N007M1, PSDTX903M5
TK-9608	PHOSPHATE MIX TANK	36644, N007M1, PSDTX903M5
TK-9805AX	ACID DAY TANK	36644, N007M1, PSDTX903M5
TK-9806X	CAUSTIC DAY TANK	36644, N007M1, PSDTX903M5
X-5702	VOC THERMAL OXIDIZER	36644, N007M1, PSDTX903M5
X-8501	GROUND FLARE	36644, N007M1, PSDTX903M5
X-8502	ENCLOSED FLARE	36644, N007M1, PSDTX903M5
Z-7001	DEMINERALIZATION WASTE WATER NEUTRALIZATION SUMP	36644, N007M1, PSDTX903M5
Z-7002	CONDENSATE TREATMENT WASTE WATER NEUTRALIZATION SU	36644, N007M1, PSDTX903M5
Z-7401	RAW WATER CLARIFIER BLOWDOWN SUMP	36644, N007M1, PSDTX903M5
Z-8011	LAB WASTE SUMP	36644, N007M1, PSDTX903M5

New Source Review Authorization References by Emissions Unit

The following is a list of New Source Review (NSR) authorizations issued by EPA for emission units listed elsewhere in this operating permit.

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
H-1000	ETHYLENE CRACKING FURNACE	PSDTX903GHG
B-7280	PACKAGE BOILERS	PSDTX903GHG
B-7290	PACKAGE BOILERS	PSDTX903GHG
D-1801	DECOKING DRUM	PSDTX903GHG
P-FUG (F-1)	FUGITIVES	PSDTX903GHG
GTG1-DB	GAS TURBINE AUXILIARY DUCT BURNER FOR GTG-1	PSDTX903GHG
GTG2-DB	GAS TURBINE AUXILIARY DUCT BURNER FOR GTG-2	PSDTX903GHG

Appendix A

Acronym List 131

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
ElP ..... 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
GHG ..... Green House Gas
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... 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_x ..... nitrogen oxides
NSPS ..... New Source Performance Standard (40 CFR Part 60)
NSR ..... New Source Review
ORIS ..... Office of Regulatory Information Systems
Pb ..... lead
PBR ..... Permit By Rule
PM ..... particulate matter
ppmv ..... parts per million by volume
PSD ..... prevention of significant deterioration
RO ..... Responsible Official
SO_2 ..... sulfur dioxide
TCEQ ..... Texas Commission on Environmental Quality
TSP ..... total suspended particulate
TVP ..... true vapor pressure
U.S.C. ..... United States Code
VOC ..... volatile organic compound

Appendix B

Major NSR Summary Table.....133

Major NSR Summary Table

Permit Number: 36644 and PSDTX903M5 and N007M1 (Issuance Date: 07/23/2013)							
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.**
N-1	Recycle Ethane Cracking Furnace H-0100	NO_X (7)(10)	48.32		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	24.16	79.37	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	2.21	4.83	21, 28, 29, 30, 34	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)(11)	46.50		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	23.25	101.85	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} (7)	1.51	6.61	21, 28, 29	21, 29, 35, 36	29
		VOC (7)	0.57	2.51	21	21, 36, 38	38
N-2	Fresh Feed Cracking Furnace H-0200	NO_X (7)(10)	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 35, 36, 38, 45	29, 30, 34, 38
		CO (7)(11)	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} (7)	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC (7)	0.84	3.68	21	21, 36, 38	38
N-3	Fresh Feed Cracking Furnace H-0300	NO_X (7)(10)	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO (7)(11)	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} (7)	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC (7)	0.84	3.68	21	21, 36, 38	38
N-4	Fresh Feed Cracking Furnace H-0400	NO_X (7)(10)	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO (7)(11)	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} (7)	2.21	9.67	21, 28, 29	21, 29, 35, 36	29

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.
		VOC [7]	0.84	3.68	21	21, 36, 38	38
N-5	Fresh Feed Cracking Furnace H-0500	NO_X [7][10]	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X [7]	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 [7]	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO [7][11]	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO [7]	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} [7]	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC [7]	0.84	3.68	21	21, 36, 38	38
N-6	Fresh Feed Cracking Furnace H-0600	NO_X [7][10]	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X [7]	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 [7]	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO [7][11]	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO [7]	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} [7]	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC [7]	0.84	3.68	21	21, 36, 38	38
N-7	Fresh Feed Cracking Furnace H-0700	NO_X [7][10]	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X [7]	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 [7]	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO [7][11]	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO [7]	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} [7]	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC [7]	0.84	3.68	21	21, 36, 38	38
N-8	Fresh Feed Cracking Furnace H-0800	NO_X [7][10]	70.68		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X [7]	35.34	116.08	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 [7]	3.22	7.07	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO [7][11]	68.02		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO [7]	34.01	148.97	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} [7]	2.21	9.67	21, 28, 29	21, 29, 35, 36	29
		VOC [7]	0.84	3.68	21	21, 36, 38	38

Permit Number: 36644 and PSDTX903M5 and N007M1 (Issuance Date: 07/23/2013)							
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.**
N-9	Fresh Feed Cracking Furnace H-0900 (487.5 MMBtu/hr maximum)	NO_X (7)(10)	48.75		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	12.19	21.35	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	5.60	24.53	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO (7)(11)	34.13		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	17.06	74.73	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM_{10} (7)	3.63	15.91	21, 28, 29	21, 29, 35, 36	29
		VOC (7)	2.63	11.51	21	21, 36, 38	38
		NH_3	1.98	8.68	21, 32	21, 32, 36, 38	38
N-16	Fresh Feed Cracking Furnace H-1000 (487.5 MMBtu/hr maximum)	NO_X (7)(10)	49.80		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		NO_X (7)	12.45	21.81	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		SO_2 (7)	4.48	8.72	21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO (7)(11)	69.72		21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		CO (7)	17.43	76.34	21, 28, 29, 30	21, 29, 30, 35, 36, 38, 45	29, 30, 38
		PM (7)	2.49	10.91	21, 28, 29	21, 29, 35, 36	29
		PM_{10} (7)	2.49	(15)	21, 28, 29	21, 29, 35, 36	29
		$PM_{2.5}$ (7)	2.49	(15)	21, 28, 29	21, 29, 35, 36	29
		VOC (7)	2.69	11.76	21	21, 36, 38	38
		NH_3	1.98	8.68	21, 32	21, 32, 36, 38	38
N-10	Catalyst Regeneration Effluent	VOC (7)	15.83	0.08			
		CO	373.33	1.89			
N-11	Reactor Regeneration Effluent (Startup, Shutdown, and Maintenance)	VOC (7)	0.13	0.11			
		CO	161.43	135.57			
N-12	DP Reactor Feed Heater	NO_X (7)	5.01	13.71	21, 28, 29	21, 29, 35	29
		SO_2 (7)	0.44	0.95	21, 28, 29	21, 29, 35	29
		CO (7)	4.40	12.26	21, 28, 29	21, 29, 35	29
		PM_{10} (7)	0.38	1.64	21, 28, 29	21, 29, 35	29
		VOC (7)	0.17	0.74	21	21	

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.
	DP Reactor Feed Heater Startup Emission Rate	CO [7]	14.50	1.74	21, 28, 29	21, 29, 35	29
N-13	DP Reactor Regeneration Heater	NO_X [7]	1.73	1.42	28, 29	29, 35	29
		SO_2 [7]	0.14	0.10	28, 29	29, 35	29
		CO [7]	2.37	3.13	28, 29	29, 35	29
		PM_{10} [7]	0.13	0.17	28, 29	29, 35	29
		VOC [7]	0.06	0.08			
N-14	Auxiliary Boiler	NO_X	13.60		21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		SO_2	1.24		21, 28, 29, 30, 34	21, 29, 30, 34, 35, 36, 38	29, 30, 34, 38
		CO	15.60		21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		PM_{10}	1.58		21, 28, 29	21, 29, 35, 36	29
		VOC	1.58		21	21, 36, 38	38
N-20A	GTG HRSG Unit 1 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_X	17.65		28, 29, 30, 31, 33	29, 30, 31, 33, 35, 36, 38	29, 30, 38
		SO_2	4.53		28, 29, 30, 31, 33, 34	29, 30, 31, 33, 34, 35, 38	29, 30, 34, 38
		CO	89.51		28, 29, 30, 31, 33	29, 30, 31, 33, 35, 36, 38	29, 30, 38
		PM_{10}	5.55		31, 33	31, 33	
		$PM_{2.5}$	5.55		31, 33	31, 33	
		VOC	4.09		28, 29, 31, 33	29, 31, 33, 35, 38	29, 38
		NH_3	7.61	28.20	32, 33	32, 33, 38	38
N-20B	GTG HRSG Unit 2 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_X	17.65		28, 29, 30, 31, 33	29, 30, 31, 33, 35, 36, 38	29, 30, 38
		SO_2	4.53		28, 29, 30, 31, 33, 34	29, 30, 31, 33, 34, 35, 38	29, 30, 34, 38
		CO	89.51		28, 29, 30, 31, 33	29, 30, 31, 33, 35, 36, 38	29, 30, 38
		PM_{10}	5.55		31, 33	31, 33	
		$PM_{2.5}$	5.55		31, 33	31, 33	
		VOC	4.09		28, 29, 31, 33	29, 31, 33, 35, 38	29, 38
		NH_3	7.61	28.20	32, 33	32, 33, 38	38
N-14, N-20A, N-20B	Annual Combined Emissions Caps	NO_X		102.96	30, 31, 33	30, 31, 33, 36, 38	30, 38
		SO_2		8.27	30, 31, 33, 34	30, 31, 33, 34, 38	30, 34, 38
		CO		349.85	30, 31, 33	30, 31, 33, 36, 38	30, 38
		PM_{10}		46.78	31, 33	31, 33	
		$PM_{2.5}$		[15]	31, 33	31, 33	
		VOC		32.17	31, 33	31, 33, 38	38
N-15, N-15A	Flare System (Exclusive of Planned Turnarounds) [8][9]	NO_X [7]	2219.7	101.8	14, 15, 37	14, 15, 37	
		SO_2 [7]	165.8	1.6	14, 15, 37	14, 15, 37	
		CO [7]	15794.4	233.9	14, 15, 37	14, 15, 37	
		VOC [7]	24418.1	203.5	4, 6, 14, 15, 37	4, 6, 14, 15, 37	4, 6
		H_2S	1.8	0.1	14, 15, 37	14, 15, 37	

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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.**
	Annual Cap	VOC, NO_X, and CO		359.7	14, 15, 37	14, 15, 37	
N-15, N-15A	Flare System (Emissions from Planned Turnarounds) (8)(9)	NO_X (7)		84.9	14, 15, 37	14, 15, 37	39
		SO_2 (7)		1.3	14, 15, 37	14, 15, 37	39
		CO (7)		195.1	14, 15, 37	14, 15, 37	39
		VOC (7)		172.7	14, 15, 37, 59	14, 15, 37, 59	39
		H_2S		0.1	14, 15, 37	14, 15, 37	39
	Annual Cap	VOC, NO_X, and CO Cap		300.0	14, 15, 37	14, 15, 37	39
N-18	Decoking Drum	CO (7)	3360.00	204.09			
		PM_{10} (7)	78.73	3.98			
		$PM_{2.5}$ (7)	78.73	(15)			
N-19	Thermal Oxidizer	NO_X (7)	0.24	0.88	19, 28, 29	19, 29, 35	29
		SO_2 (7)	0.08	0.28	19, 28, 29	19, 29, 35	29
		CO (7)	0.21	0.77	19, 28, 29, 30	19, 29, 30, 35, 38	29, 30, 38
		PM_{10} (7)	0.04	0.13	19	19	
		VOC (7)	0.03	0.14	6, 19, 28, 29, 30	6, 19, 29, 30, 35, 38	6, 29, 30, 38
N-21A	Fire Pump Diesel Engine (6)	NO_X (7)	15.81	1.23			
		SO_2 (7)	1.05	0.08			
		CO (7)	3.41	0.27			
		PM_{10} (7)	1.12	0.09			
		VOC (7)	1.26	0.10			
N-21B	Fire Pump Diesel Engine (6)	NO_X (7)	15.81	1.23			
		SO_2 (7)	1.05	0.08			
		CO (7)	3.41	0.27			
		PM_{10} (7)	1.12	0.09			
		VOC (7)	1.26	0.10			
N-22	Carbon Bed Adsorber	Benzene	0.31	0.11	6, 20	6, 20	6
N-23	Ammonia Scrubber	NH_3	0.12	0.51	17	17	
N-24A	Boiler B-7280 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66	21	21, 36, 38	38
		NO_X (Routine)	4.25	16.64	21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		NO_X (Startup)	17.02	1.23	21, 28, 29	21, 29, 35	29
		CO (7)	14.89	18.31	21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		SO_2	7.91	16.67	21, 22, 28, 29	21, 22, 29, 35, 36	29
		PM_{10} (7)	2.13	8.32	21, 28, 29	21, 29, 35	29
		$PM_{2.5}$ (7)	2.13	(15)	21, 28, 29	21, 29, 35	29
		NH_3	1.87	7.33	21, 32	21, 32, 36, 38	38
N-24B	Boiler B-7290 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66	21	21, 36, 38	38
		NO_X (Routine)	4.25	16.64	21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		NOX (Startup)	17.02	1.23	21, 28, 29	21, 29, 35	29
		CO (7)	14.89	18.31	21, 28, 29, 30	21, 29, 30, 35, 36, 38	29, 30, 38
		SO_2	7.91	16.67	21, 22, 28, 29	21, 22, 29, 35, 36	29

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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.**
		PM_{10} [7]	2.13	8.32	21, 28, 29	21, 29, 35	29
		$PM_{2.5}$ [7]	2.13	[15]	21, 28, 29	21, 29, 35	29
		NH_3	1.87	7.33	21, 32	21, 32, 36, 38	38
N-24A, N-24B	Annual Cap – Boilers B-7280 and B-7290	Total Combined SO_2		23.42	21, 28, 29	21, 22, 29, 35, 36	29
N-1 through N-9, N-14, N-15, N-15A, N-16, N-19, N-20A, and N-20B	Fresh Feed Cracking Furnaces, Auxiliary Boiler, Flare System, Cogeneration Facility, and Thermal Oxidizer [9]	Total Combined Mercury [9]	0.63	0.039	44	36, 44	
TK-2501	IFR Spent Caustic Tank	VOC [7]	0.32	0.35	4, 6, 11	4, 6, 11	4, 6, 11
TK-8001	IFR WW Equalization Tank	VOC [7]	0.39	0.62	6, 11	6, 11	6, 11
TK-8101	EFR Contaminated Storm water	VOC [7]	0.49	0.49	11	11	11
TK-7702	Sulfuric Acid Tank	H_2SO_4	0.01	0.01	11	11	11
		SO_3	0.01	0.01	11	11	11
F-1	Fugitives [12]	VOC [7]	9.43	41.31	4, 6, 9, 10, 49	4, 6, 9, 10, 49, 50	4, 6, 9, 10
F-2 & F-2A	Cooling Tower System	PM_{10} [7]	2.13	2.76	25, 27	25	25
		VOC [5][7]	25.00	42.45	6, 25, 27	6, 25	6, 25
		Benzene	0.50	1.99	6, 25, 26, 27	6, 25, 26	6, 25, 26, 27
F-4	Benzene/ Toluene Process Fugitives [12]	VOC [7]	0.67	2.94	4, 6, 9, 10, 49	4, 6, 9, 49, 50	4, 6
		H_2S	0.01	0.02			
F-5	C4 Huntsman Pipeline Fugitives [12]	VOC	0.01	0.03	4, 6, 9, 10, 49	4, 6, 9, 49, 50	4, 6
BOIL-AMM	Fugitives – Boilers 7280 & 7290 NH_3 Injection System [12]	NH_3	0.01	0.02	18, 38	18	38
COG-AMM-1	NH_3 Fugitives: Storage Tank and Vaporizer [12]	NH_3	0.01	0.06	18	18	

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.
COG-AMM-2	NH_3 Fugitives: GTG/HRSG Unit 2 SCR - NH_3 Injection System[12]	NH_3	0.01	0.01	18, 38	18	38
COG-AMM-3	NH_3 Fugitives: GTG/HRSG Unit 1 SCR – NH_3 Injection System[12]	NH_3	0.01	0.01	18, 38	18	38
FURN-AMM	NH_3 Fugitives: Fresh Feed Cracking Furnaces H-0900 and H-1000 - NH_3 Injection System[12]	NH_3	0.03	0.11	18	18	
GTGENG-1	Cogen Starting Engine Unit #20A [14]	NO_X	16.48	0.79		63	
		SO_2	0.01	0.01		63	
		CO	5.17	0.25		63	
		PM_{10}	0.71	0.03		63	
		$PM_{2.5}$	0.71	[15]		63	
		VOC	0.01	0.01		63	
GTGENG-2	Cogen Starting Engine Unit #20B [14]	NO_X	16.48	0.79		63	
		SO_2	0.01	0.01		63	
		CO	5.17	0.25		63	
		PM_{10}	0.71	0.03		63	
		$PM_{2.5}$	0.71	[15]		63	
		VOC	0.01	0.01		63	
PLANNED TURNAROUND AND MSS CAPS							
TA CAP	Turnaround CAP (Non-Flare)	VOC	16.03	4.61	50, 51, 53, 58, 60	50, 51, 53, 55, 60, 62	
		PM	0.30	2.08			
		PM_{10}	0.02	[15]			
		$PM_{2.5}$	0.01	[15]			
MSS CAP	MSS CAP (Non-Flare)	VOC	17.52	4.72	47, 48, 51, 53, 58, 60	46-48, 51, 53, 55, 58, 60, 62	
		PM	0.74	1.43		46	
		PM_{10}	0.49	[15]		46	
		$PM_{2.5}$	0.03	[15]		46	
N-1	Recycle	NO_X	48.32	[13]		46, 57	

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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.**
	Ethane Cracking Furnace H-0100 Startup	CO	93.02	(13)		46, 57	
N-2	Fresh Feed Cracking Furnace H-0200 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-3	Fresh Feed Cracking Furnace H-0300 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-4	Fresh Feed Cracking Furnace H-0400 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-5	Fresh Feed Cracking Furnace H-0500 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-6	Fresh Feed Cracking Furnace H-0600 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-7	Fresh Feed Cracking H-0700 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-8	Fresh Feed Cracking H-0800 Startup	NO_X	70.68	(13)		46, 57	
		CO	136.04	(13)		46, 57	
N-9	Fresh Feed Cracking H-0900 Startup	NO_X	48.75	(13)		46, 57	
		CO	34.13	(13)		46, 57	
N-16	Fresh Feed Cracking Furnace H-1000 Startup	NO_X	49.80	(13)		46, 57	
		CO	69.72	(13)		46, 57	
N-12	DP Reactor Feed Heater Startup	NO_X	15.02	(13)		46, 57	
		CO	14.52	(13)		46, 57	
N-13	DP Reactor Generator Heater	NO_X	3.45	(13)		46, 57	
		CO	4.74	(13)		46, 57	
N-14	Auxiliary Boiler Startup	NO_X	27.12	(13)		46, 57	
		CO	31.19	(13)		46, 57	

Permit Number: 36644 and PSDTX903M5 and N007M1 (Issuance Date: 07/23/2013)							
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.**
N-20A	GTG HRSG Unit 1 Startup	NO_X	123.53	(13)		46, 57	
		CO	716.12	(13)		46, 57	
N-20B	GTG HRSG Unit 2 Startup	NO_X	123.53	(13)		46, 57	
		CO	716.12	(13)		46, 57	
N-24A	Boiler B-7280 Startup	NO_X	17.02	(13)		46, 57	
		CO	29.78	(13)		46, 57	
N-24B	Boiler B-7290 Startup	NO_X	17.02	(13)		46, 57	
		CO	29.78	(13)		46, 57	

(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
CO - carbon monoxide
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
SO_3 - sulfur trioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
H_2S - hydrogen sulfide
H_2SO_4 - sulfuric acid
NH_3 - ammonia

(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. Beginning January 1, 2006, compliance with annual emission limits is based on a rolling 12-month period with the following exception: allowable emission rates and emission caps for the Ground Flare (EPN N-15) will be based upon calendar years for 2006 through 2011 and will be based on a rolling 12-month period beginning January 1, 2012.

(5) The VOC emission rates from the cooling tower are for total VOC, including benzene.

(6) Emissions from the fire pump diesel engines are based on 156 hours per year operation. Non-emergency fire pump operations shall only occur between the hours of 8:00 a.m. and 5:00 p.m. (one engine at any one time.

(7) These emissions are permitted under PSD or Nonattainment review in addition to State.

(8) Turnarounds are planned for 2006 and 2007 for inspection and maintenance, and for implementation of improvements required by the Texas Commission on Environmental Quality Agreed Order approved and signed March 23, 2005, (Docket Number 2003-1317-AIR-E). Thereafter, consistent with the plant's original design basis, planned turnarounds are expected at nominal intervals of once every five years for purposes such as catalyst replacement, equipment inspection, and equipment repair or replacement.

(9) These are emission caps for the stated EPNs. Mercury shall be calculated and expressed as elemental mercury in any form or phase and shall include the mercury contained in any compound.

(10) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 150 total hours in any 12-month period during which emissions from one or more furnaces (EPNs N-1 through N-8, N-9, and N-16) exceed the routine lbs/hr emission limit. Annual emissions are included in the rates of normal operations.

(11) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 876 total hours in any 12-month period. Annual emissions are included in the rates of normal operations.

(12) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.

(13) Annual emission rates are included in each EPN's respective routine emission rates.

(14) Each engine is authorized to operate for up to 96 total hours in any 12-month period.
(15) Annual emission rates of PM_{10} and $PM_{2.5}$ are included in PM annual emissions. Annual emission rates of $PM_{2.5}$ are included in PM_{10} annual emissions.

Permit Number: PSD-TX-903-GHG (Issuance Date: 08/24/2012)								
				Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
Emission Unit ID	EPN	Source Description	Air Contaminant Name	TPY (2)	TPY CO_{2e} (2,3)	Spec. Cond.	Spec. Cond.	Spec. Cond.
H-1000	N-16	Ethylene Cracking Furnace	CO_2	255,735		III.A.3-4, III.B.1.a,b,g, i,j, III.C.1-4, IV.A.1, 6, V.A-B	III.A.3-4, III.B.1.c-g, j, IV.A.1.a-f, IV.A.3-9	I.D.1-2, IV.A.6, V.C
			CH_4	14.2				
			N_2O	2.8	256,914			
B-7280 and B-7290	N-24A & N-24B	Two Steam Package Boilers(4)	CO_2	420,095		III.A.3-4, III.B.2.g-h, III.C.1-4, IV.A.1, 6, V.A-B	III.A.3-4, III.B.2.a,b, IV.A.1.a-e, IV.A.3-9	I.D.1-2, IV.A.6, V.C
			CH_4	22.0				
			N_2O	4.4	421,399			
DB-1 (or GTG1-DB)	N-20A	Auxiliary Gas Turbine Duct Burner	CO_2	117,786		III.A.3-4, III.B.3.f,g, III.C.1-4, IV.A-B, IV.A.1, 6, V.A-B	III.A.3-4, III.B.3.a, IV.A.1.a-e, IV.A.3-9	I.D.1-2, IV.A.6, V.C
			CH_4	6.5				
			N_2O	1.3	118,329			
DB-2 (or GTG2-DB)	N-20B	Auxiliary Gas Turbine Duct Burner	CO_2	117,786		III.A.3-4, III.B.3.f,g, III.C.1-4, IV.A-B, IV.A.1, 6, V.A-B	III.A.3-4, III.B.3.a, IV.A.1.a-e, IV.A.3-9	I.D.1-2, IV.A.6, V.C
			CH_4	6.5				
			N_2O	1.3	118,329			
D-1801	N-18	Decoking Drum (10^{th} Furnace Operations Only)	CO_2	571	571	III.B.1.f, IV.A.1	IV.A.1.a,f, IV.A.3-9	I.D.1-2, IV.A.6
P-FUG	F-1	Fugitives (10^{th} Furnace Project Only)	CH_4	N/A	N/A	III.B.4.a, IV.A.1,	IV.A.1.a, e, IV.A.2, IV.A.3-6, 9	IV.A.6
HFC-FUG	F-5	HFC-Containing Equipment (10^{th} Furnace Project Only)	HFCs	N/A	N/A	N/A	III.B.5.b, IV.A.1.a, IV.A.3-6, 9	IV.A.6

(1) Compliance with the annual emission limits (tons per year) is based on a 365-day total, rolled daily.

(2) The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions only from the facility during all operations and include MSS activities.

(3) Global Warming Potentials (GWP): $CH_4 = 21$, $N_20 = 310$

(4) The steam package boilers have a combined annual refinery fuel gas (RFG) firing limit equivalent to one boiler firing RFG at capacity for 8,760 hrs. per year.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A Permit Is Hereby Issued To
BASF TOTAL Petrochemicals LLC
Authorizing the Construction and Operation of
Include Two Diesel Engines For Two Separate Cogeneration Units
Located at **Port Arthur, Jefferson County, Texas**
Latitude 29° 54′ 14″ Longitude 94° 3′ 18″
Permits: 36644, PSDTX903M5, and N007M1

Amendment Date : July 23, 2013

Renewal Date: February 10, 2020

For the Commission

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

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; 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.

SPECIAL CONDITIONS

Permit Numbers 36644, PSDTX903M5, and N007M1

1. This permit authorizes emissions only from those points listed in the attached table, entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in the special conditions. **(PSD, N, 7/12)**

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions. **(11/02)**

3. Subject to the maximum allowable emission rates and emission caps identified in the MAERT, this permit authorizes the following:

   A. Emissions of VOC, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), and hydrogen sulfide (H_2S) from the Flare System (Emission Point Nos. [EPN] N-15, and N-15A) resulting from the following: **(1/07, PSD, N) (2/09)**

      (1) Flare pilot gas.

      (2) Assist gas.

      (3) Vent streams from the sources described in Section 5.1, "Low to Moderate Volume, Regularly Occurring Vent Flows to the Flare," of the amendment application dated August 31, 2004, and any other such sources existing as of that date.

      (4) Vent streams from the sources described in Section 5.2, "Intermittent, High Volume Vent Flows to the Flare," of the amendment application dated August 31, 2004, and any other such sources existing as of that date.

      (5) Planned and scheduled major plant turnaround activities. Emissions from these activities are included in the total allowable emission rates and emission caps for EPNs N-15, N-15A, and N-15 TEMP for years 2006 and 2007, and have separate limits for years 2009 and beyond. N-15 TEMP was shutdown and removed as required in 2007. For years 2009 and beyond, these planned turnarounds are expected at nominal intervals of once every five years. **(5/11)**

For years 2009 and beyond, emissions from a planned major plant turnaround activity which begins less than 30 months after the previous one began will be counted against the allowable emission rates and emission caps identified in the MAERT for EPNs N-15 and N-15A as being exclusive of planned turnarounds. An exception to this may be made if a scheduled plant turnaround is advanced to coincide with an unscheduled outage. In that case, upon approval by the Director of the Air Permits Division, emissions from the advanced turnaround may be counted against the allowable emission rates and emission caps identified in the MAERT for EPNs N-15 and N-15A for planned turnarounds.

B. Maintenance, startup, and shutdown (MSS) activities associated with decoking of the catalysts in the DP Reactors R-6101A and B and resultant carbon monoxide (CO) emissions from EPN N-11. **(11/03)**

Federal Applicability

4. 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: **(8/00)**

   A. General Provisions, Subpart A.

   B. Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) in Title 40 Code of Federal Regulations (40 CFR) Part 60, Subpart VV.

   C. The VOC Emissions from SOCMI Distillation Operations in 40 CFR Part 60, Subpart NNN.

   D. Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) in 40 CFR Part 60, Subpart Kb.

   E. The VOC Emissions from SOCMI Reactor Processes, in 40 CFR Part 60, Subpart RRR.

   F. Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subpart Db.

   G. Stationary Gas Turbines in 40 CFR Part 60, Subpart GG.

5. These facilities shall comply with all applicable requirements of the EPA regulations in 40 CFR Part 60, Subparts A and YYY on Standards of Performance

for New Stationary Sources upon promulgation for the Standards of Performance for VOC Emissions from SOCMI Wastewater.

6. These facilities shall comply with all applicable requirements of the EPA regulations in 40 CFR Parts 61 and 63 on National Emission Standards for Hazardous Air Pollutants (NESHAPS) promulgated for: **(2/10)**

   A. Benzene Waste Operations in 40 CFR Part 61, Subparts A and FF.

   B. Equipment Leaks (Fugitive Emission Sources) of Benzene in 40 CFR Part 61, Subparts A and J.

   C. Equipment Leaks (Fugitive Emission Sources) in 40 CFR Part 61, Subparts A and V.

   D. Synthetic Organic Manufacturing Industry in 40 CFR Part 63, Subparts A and F.

   E. Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater in 40 CFR Part 63, Subparts A and G.

   F. Equipment Leaks in 40 CFR Part 63, Subparts A and H.

7. 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.

Production Limits

8. Production rates for the equipment covered by this permit shall not exceed the values listed in the Confidential File, Table 2, dated January 2012, and the maximum ethylene production rate shall not exceed 2.87 billion pounds a year (based on a 12-month rolling average). Monthly records of the annual ethylene production rates 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, 7/12)**

Leak Detection and Repair Monitoring Programs

9. Piping, Valves, Connectors, Pumps, Agitators, and Compressors in VOC Service-Intensive Directed Maintenance - 28LAER **(PSD, N, 11/11)**

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

A. The requirements of paragraphs F and G shall not apply (1) where the 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 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.

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.

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

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 72 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer 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 is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, than 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 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 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.

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

Vt = 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.

Vp = 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.

10. Connectors in VOC Service - 28CNTQ **(PSD, N, 11/11)**

In addition to the weekly physical inspection required by Item E of Special Condition No. 9, all accessible connectors in gas\vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Items F thru J of Special Condition No. 9.

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

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

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

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

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

Where:

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

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

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

Cp = the percentage of leaking connectors for the monitoring period. **(N)**

11. Storage and Loading of VOC

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 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 API Code 650, or an equivalent degree of flotation, except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

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 five years and be made available to representatives of the TCEQ upon request.

H. If throughput records are specified in the special conditions of this permit, the holder of this permit may keep such records in lieu of the records required in Paragraph G.

I. 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.”

J. 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 30 TAC §§ 101.201 or 101.211 and shall be cleaned up immediately to minimize air emissions. **(N)**

12. The fittings associated with all floating roof storage tanks shall follow the representations made in the permit application. **(N, 12/00)**

Flare System

13. Emissions from the following Vessels shall be routed to the Flare System: D-8001, D-7702, D-7703, D-7705, D-8002, D-8003, D-8601, D-8602, D-8603, and D-8604. The following Vessels shall be routed to either the Flare System or Thermal Oxidizer (TO): X-8002, X-8003, and D-8007. **(PSD, N, 1/07, 2/09)**

14. The Flare System shall be designed and operated in accordance with the following requirements: **(2/09)**

    A. The gas combusted at the flare tips of the Shielded Flare (EPN N-15A) shall have a maximum exit velocity of 60 ft/sec and a minimum net heating value of 300 Btu per standard cubic foot (Btu/scf) at all times. Assist gas may be added to the flare tips as necessary to maintain the minimum net heating value of the gas to the flare. **(PSD, N, 7/13)**

    B. The Ground Flare (EPN N-15) shall be used only as a backup to the Shielded Flare during periods when the flow and/or pressure of the combusted gas exceed the design capacity of the Shielded Flare and during malfunction or maintenance of the Shielded Flare.

    The gas combusted at the flare tips in the Ground Flare shall have a minimum net heating value of 635 Btu/scf (determined as the higher heating value) when the waste gas has a hydrogen content of 8 volume percent or more, and 825 Btu/scf when the waste gas has a hydrogen content of less than 8 volume percent.

    Assist gas may be added to the flare tips as necessary to maintain the minimum net heating value of the gas to the flare. **(PSD, N)**

    C. Each flare shall be operated with a flame present at all times and have a constant pilot flame. The flame shall be monitored by thermocouple or an equivalent IR scanner. Any interruption in pilot gas flow will require immediate corrective action. Those components of the automatic re-ignition system which require periodic replacement shall be replaced as needed, but in

no case shall they remain in service longer than recommended by the manufacturer. In addition, cameras shall maintain a 24-hour surveillance of each flare for smokeless operation. **(2/10)**

D. Each flare shall be operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours. **(PSD, N, 4/99)**

E. Documentation of which flare is being used will be based on the position of the valves leading to each flare. The valve positions will be recorded continuously and will be retained for five years. **(1/07)**

F. The instruments used for flow measurement to the flare system will be designed and operated such that measurement of flow to the flare system shall be accurate as follows:

(1) to within 5 percent at flow rates equivalent to 30 percent, 60 percent, and 90 percent of monitor full scale for each of the flow monitor's two scale settings (presently zero to 40,000 pounds per hour and zero to 1 million pounds per hour), and

(2) to within 5 percent at a flow rate equal to the average of the lower 50 percent of hourly average flow rates for the previous rolling 12-month period. The flow monitor or velocity monitor shall be performance tested/calibrated within 60 days of start of operation of the Elevated Flare (EPN N-15A), and then annually according to manufacturer's specifications. The manufacturer's calibration specifications, methodology, and all testing and/or calibration information and reports must be maintained on site for a period of at least 5 years. **(1/07)**

15. The holder of this permit shall install a continuous flow monitor and analyzer(s) (gas chromatograph or equivalent) that provide a record of the flow rate, composition, Btu content, and hydrogen content of the waste gas stream sent to the Flare System. **(PSD, N, 1/07)**

A. The flow monitor and analyzer(s) shall generate quality-assured (or valid) data when the Flare System is operating. The flow monitor shall be calibrated at least once per year. The analyzer(s) used to determine composition, Btu content and hydrogen content shall be calibrated at least once per month. Loss of valid data due to periods of instrument breakdown, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Flare System operated over the previous rolling 12-

month period. This applies separately to both the flow monitor and the analyzer. 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 monitor and analyzer, may be required by the TCEQ Regional Manager.

B. The flow monitor sensor and analyzer sample points should be installed in the vent stream as near as possible to the Flare System inlet such that the total vent stream to the Flare System is measured and analyzed. Two or more valid samples in a row below the minimum Btu specifications indicate non compliance with the Btu content requirements. The average hourly values of the flow and composition shall be recorded. Downtime of the flow monitor and analyzer(s) shall also be recorded, including the reason for such downtime. Records of the hourly averages and the downtime of the flow monitor and analyzer(s) shall be maintained for five years and be made available to representatives of the TCEQ upon request. **(2/09)**

Cogeneration Units

16. Cogeneration Train Unit 1 (GTG/HRSG Unit 1), EPN N-20A, shall be comprised of a General Electric Frame 6B Turbine and a 310.4 MMBtu/hr, based on the higher heating value (HHV) of fuel, duct burner, and selective catalytic reduction (SCR). Cogeneration Train Unit 2 (GTG/HRSG Unit 2), EPN N-20B, shall be comprised of a General Electric Frame 6B Turbine, a 310.4 MMBtu/hr duct burner and SCR. Concentrations shall be represented in parts per million by volume on a dry basis (ppmvd) when corrected to 15 percent oxygen (O_2), without correction to International Standards Organization conditions, at any load except during periods of start-up or shutdown. **(7/02)**

    A. Combined emissions, on a hourly average, from the gas turbine plus duct burner shall not exceed 6 ppmvd NO_x or 50 ppmvd CO for GTG/HRSG Units 1 and 2 when corrected to 15 percent O_2. **(11/11)**

    B. The concentration of ammonia (NH_3) in the exhaust gases of GTG/HRSG Unit 1 and Unit 2 shall not exceed 7 ppmvd when corrected to 15 percent O_2. **(PSD, N, 4/99, 7/02)**

    C. The GTG/HRSG Unit 1 and GTG/HRSG Unit 2 may exceed the permitted NO_x concentration limit above and the hourly pound per hour (lb/hr) NO_x emission limit in the MAERT during SCR start-up for up to two hours. **(7/02)**

D. Opacity of emissions from the cogeneration trains must not exceed 5 percent averaged over a six-minute period, except for those period described in 30 TAC § 111.111(a)(1)(E).

Unloading and Storage of NH_3

17. A. Unloading emissions shall be vapor balanced back to the NH_3 storage tank. Ammonia tank emissions shall be routed to an NH_3 Scrubber (EPN N-23).

B. The permit holder shall monitor the temperature and flow rate of the water to the Scrubber (EPN N-23) once per shift when unloading NH_3. 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 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. **(11/03)**

18. The permit holder shall maintain a quantity of no more than 1,700 gallons of anhydrous NH_3 on-site per cogeneration train at any time. Additionally, the permit holder shall maintain prevention and protection measures for the NH_3 storage system as represented in the integrated contingency plan, a copy of which is maintained on-site, which includes (but is not limited to) the following:

A. The NH_3 storage tank area will be marked and secured so as to protect the NH_3 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_3.

C. In the event of a release of the NH_3 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_3, the permit holder shall follow the mitigation procedures set out in the integrated contingency plan 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_3 service shall be followed:

(1) Audio, olfactory, and visual checks for NH_3 leaks within the operating area shall be made once per shift. **(2/09)**

(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/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. **(11/03)**

TO and Backup Carbon Adsorption System (CAS)

19. The TO shall be designed to operate with a 99.99 percent destruction efficiency. The firebox temperature shall be continuously monitored and recorded, and shall not be less than 1800 ^{o}F. **(PSD, N, 3/99)**

A. The permit holder is authorized to operate the TO at a temperature less than 1800 ^{o}F during stack test conducted at the maximum production rate to demonstrate the minimum 99.99 percent destruction efficiency specified by this condition. **(5/13)**

B. The permit holder shall submit an alteration request to the TCEQ Executive Director to change the temperature specified in this condition to a reduced temperature following successful demonstration of the required destruction efficiency at such temperature. **(5/13)**

20. A CAS with 99.99 percent removal efficiency for VOC (benzene) shall serve as backup for the TO during the times of TO outages. The CAS shall consist of two trains; each train shall consist of two 20,000 pound (lb) activated carbon canisters in series.

A. The CAS train in service shall be sampled to determine breakthrough of VOC every eight hours when in use. The sampling point shall be at the outlet of the first canister, but before the inlet to the secondary canister in the series. Sampling shall be done during operating conditions reflecting maximum emission venting to the CAS. **(2/10)**

B. The method of VOC sampling and analysis shall be done by Photo-Ionization Detector (PID), Flame Ionization Detector (FID), or a TCEQ approved equivalent. On each day that sampling is required; the instrument shall be calibrated prior to sampling with a certified gas mixture at less than 1 part per million (ppm) ±10 percent and 37 ppmv ±10 percent. **(2/10)**

C. Breakthrough shall be defined as a measured VOC (benzene) concentration of 37 ppmv. When the condition of breakthrough for VOC is detected during sampling, the waste gas flow shall be switched to the second CAS train within 24 hours. Replacement of the saturated canister shall be initiated at once. A fresh carbon canister will be used in the second position and the partially used canister will be shifted or valved to the first position for that train's next use.

D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

(1) Sample time and date.

(2) Monitoring results (ppmv).

(3) Corrective action taken including the time and date of that action.

(4) Process operations occurring at the time of sampling.

These records shall be made available to representatives of the TCEQ and local programs upon request and shall be retained for at least five years following the date that the data is obtained. **(2/09)**

Cracking Furnaces, Boilers and Heaters

21. Cracking furnaces, boilers, and heaters associated with the Ethylene Cracker Project shall not exceed the firing rates (HHV) and burner technology as listed below: **(PSD, N, 7/12)**

EPN (FIN)	Capacity (MMBtu)	Contaminant	Heat Specific Factor (lb/MMBtu)	
N-1 (H-0100)	302.0	NO_x	0.06 (annual) 0.08 (hourly) 0.16 (hourly*)	
		CO	0.077 (annual) 0.077 (hourly) 0.15 (hourly*)	
N-2 (H-0200) N-3 (H-0300) N-4 (H-0400) N-5 (H-0500) N-6 (H-0600) N-7 (H-0700) N-8 (H-0800)	441.7 (Each)	NO_x	0.06 (annual) 0.08 (hourly) 0.16 (hourly*)	
		CO	0.077 (annual) 0.077 (hourly) 0.15 (hourly*)	
N-9 (H-0900)	487.5	NO_x	0.01 (annual) 0.025 (hourly) 0.10 (hourly*)	
		CO	0.035(annual) 0.035 (hourly) 0.14(hourly*)	
N-16 (H-1000)	498	NO_x	0.01 (annual) 0.025 (hourly) 0.10 (hourly*)	
		CO	0.035(annual) 0.035 (hourly) 0.14(hourly*)	
N-12 (H-6101)	62.58	NO_x	0.05 (annual) 0.08 (hourly)	
		CO	0.07 (annual) **(7/13)**	
N-14 (B-7240)	227.5	NO_x CO	0.06 (annual) 0.069 (annual) **(7/13)**	
N-24A (B-7280) N-24B (B-7290)	425.4 hourly, 380 annual (Each)	NO_x CO	0.01 0.035	At over 25% load

* Hourly startups and spikes are authorized up to 876 hours per 12 months for each unit.

A. The fuel flow and heating value (Btu/scf, upper heating value basis) of the fuel firing each cracking furnace, boiler, and heater shall be continuously monitored and recorded. A rolling 12-month annual average and the one-

hour maximum firing rates shall be updated daily to demonstrate compliance with the firing rates shown. Records of the annual average and one-hour maximum firing rates 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, 4/99)**

B. The Cracking Furnaces (EPNs N-1 through N-9, and N-16) may operate in hot standby mode for up to 1,400 hours per year each. The DP Reactor Feed Heater H-6101 (EPN N-12), Supplemental Boiler (N-14), and Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) may operate in hot standby mode without any hours per year limitation. Hot standby is defined as 20 percent or less of the maximum firing rate listed above for EPNs N-1 through N-8, N-24A, and N-24B; 30% or less of the maximum firing rate for N-9, N-14, and N-16; and 40% or less for N-12. During hot standby operation (and during authorized startup operations for DP Reactor Feed Heater H-6101), the heat-based emission limits (lb/MMBtu) for NO_x and CO as stated above do not apply to these emission points. However, the lb/hr and ton per year (TPY) emission rate limits stated on the MAERT may 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. **(PSD, N, 7/12)**

C. Total operating hours devoted to decoking the cracking furnaces shall not exceed 4,416 (92 decoking operations) per rolling 12-month period. The holder of this permit shall maintain monthly records of the operating hours devoted to decoking. These records shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request. **(1/07)**

D. The above heat specific factor requirements for NO_x (lb NO_x/MMBtu) are not applicable when the cracking furnace is in its decoking cycle; however, the NO_x mass emission rates specified in the MAERT shall not be exceeded when the cracking furnace is in its decoking cycle. **(PSD)**

E. Except during SCR start-up periods, the concentration of NH_3 in the exhaust gases of Boilers B-7280 and B-7290 (EPNs N-24A andN-24B), and Cracking Furnaces H-0900 and H-1000 (EPNs N-9 and N-16) shall not exceed 10 ppmvd when corrected to 15 percent O_2. **(PSD, N, 7/12)**

22. Fuel for Boilers B 7280 and B 7290 (EPNs N-24A and N-24B) shall include: **(PSD, 11/11)**

(1) Natural Gas

(2) High Pressure Fuel Gas (HPFG)

(3) Low Pressure Fuel Gas (LPFG)

(4) Refinery Fuel Gas (RFG) from the adjacent TOTAL Refinery

(5) FCCU Supply from the adjacent TOTAL Refinery

(6) FCCU Return from the adjacent TOTAL Refinery

(7) Mix Stream from the adjacent TOTAL Refinery

(8) A combination of two or more of the above fuels

Representative properties of HPFG are listed in the e-mail from JD Consulting, L.P., dated December 15, 2005. Representative properties of LPFG and the TOTAL Refinery fuel gases are listed in the SB 1126 notification dated February 5, 2009.

To demonstrate compliance with annual SO_2 emissions limits for Boilers B7280 and B7290, a record of the rolling 12-month average of SO_2 emissions will be maintained. When Refinery Fuel Gas or FCCU Supply is burned in the boilers, a sulfur concentration obtained monthly from the TOTAL Refinery will be utilized to calculate this average. **(4/09)**

23. Opacity of emissions from the cracking furnaces, boilers, heaters, and decoke drum must not exceed 5 percent averaged over a six-minute period, except for those periods described in 30 TAC § 111.111(a)(1)(E). **(4/99)**

24. All process wastewater from the ethylene cracking unit shall be handled in an enclosed treatment system. Process wastewater shall be completely segregated from the storm water gathering system. Process wastewater shall be steam stripped, with the stripper overheads routed back into the process. Vapors from all process wastewater collection drain tanks shall be routed to the flare. Vapors from the benzene extraction unit, spent caustic oxidizer vent, and the CPI/IGF vent shall be routed to the TO. **(N, 3/99)**

Cooling Tower System

25. The holder of this permit shall perform sampling and other testing as necessary to demonstrate ongoing compliance with the emission limits for the Cooling Tower System (EPNs F2 and F-2A). The VOC associated with cooling tower water shall be monitored monthly with an approved air stripping system or equivalent. The sample obtained from the air stripping system shall be collected in a Tedlar® bag or summa canister and analyzed by gas chromatography. The minimum detection level of the testing system shall be equivalent to no more than 5 TPY of VOC

emissions, which for this facility is approximately 0.4 ppmv (air-stripped concentration, as ethylene) or approximately 0.015 ppmw (as ethylene) concentration in water. The appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained for a period of five years. The records shall be made available to the TCEQ Executive Director upon request. **(11/11)**

If a leak equivalent to more than 5 TPY of VOC emissions above baseline is detected, the owner or operator shall comply with the requirements in paragraph A of this condition except as provided in paragraphs B through E of this condition.

Documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical. For the purposes of this permit condition, delay of repair means exceeding the time frame established in paragraph A of this condition. Prior to exceeding the time frame established in Paragraph A of this condition, all documentation of a decision to delay repair shall be submitted to the TCEQ Beaumont Regional Office for approval.

A. The leak shall be repaired as soon as practical but not later than 45 calendar days after the owner or operator receives results of monitoring tests indicating a leak. The leak shall be repaired unless the owner or operator demonstrates that the results are due to a condition other than a leak.

B. Delay of repair of heat exchange systems for which leaks have been detected is allowed if the equipment is isolated from the process.

C. Delay of repair is also allowed if repair is technically infeasible without a shutdown and a shutdown is expected within the next two months.

D. Delay of repair is also allowed for up to 120 calendar days if necessary parts or personnel were not available.

E. Delay of repair is also allowed if repair is technically infeasible without a shutdown and the shutdown would cause greater emissions than the potential emissions from delaying repair. The owner or operator may delay repair until the next shutdown of the process equipment associated with the leaking heat exchanger. The owner or operator shall document the basis for the determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delaying repair. If the delay will exceed two years, and the projected emissions due to this leak will exceed the rates as listed on the MAERT for this source, then the owner or operator shall amend or alter the MAERT to reflect the increase in VOC emissions and following the

repair, the owner or operator shall determine a new baseline of VOC emissions and amend or alter the MAERT to reflect the decrease in VOC emissions. **(N, 2/09)**

26. The holder of this permit shall conduct weekly liquid samples (analyzed by gas chromatography) on each of the four Cooling Water Returns (A, B, C, and D returns) for benzene at 0.013 ppmw (or 13.0 parts per billion [ppb]) detection limit. If the analyzed cooling water has a benzene concentration greater than 0.013 ppmw (or 13.0 ppb), the analyzer shall be used to help determine the area of the plant site from which the leak into the cooling water system has occurred. A sampled benzene concentration of greater than 0.013 ppmw on two consecutive weekly samples shall be considered a leak. If a benzene leak is detected, the owner or operator shall comply with the requirements contained in paragraph A of the previous condition, except as provided in Paragraphs B through E of the previous condition.

    If the repair of a leaking component is to be delayed, documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical. For the purposes of this permit condition, delay of repair means exceeding the time frame established in Paragraph A of the previous condition. Prior to exceeding the time frame established in Paragraph A of the previous condition, all documentation of a decision to delay repair shall be submitted to the TCEQ Beaumont Regional Office for approval. **(2/10)**

27. Heat exchangers involved in the cooling water cycle shall be of welded construction and inspected during planned shutdowns in accordance with American Petroleum Institute Procedure, API-581. **(2/10)**

Initial Determination of Compliance

28. Sampling ports and platform(s) shall be incorporated into the stack design of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 ((EPNs N-24A andN-24B) 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. **(PSD, N, 7/12)**

29. 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 stacks of Ethylene Cracking Furnaces (EPNs

N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNS N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B). The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate U.S. Environmental Protection Agency (EPA) Reference Methods 201A and 202 or Reference Method 5, modified to include back-half condensibles, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}); Reference Method 8 or Reference Methods 6 or 6c for sulfur dioxide (SO_2); Reference Method 9 for opacity (consisting of 30 six-minute readings as provided in 40 CFR § 60.11[b]); Reference Method 10 for the concentration of CO; Reference Method 25A, modified to exclude methane and ethane, for the concentration of VOC (to measure total carbon as propane); and Reference Method 20 for the concentrations of NO_x and O_2 or equivalent methods. **(PSD, N, 7/12)**

Fuel sampling using the methods and procedures of 40 CFR § 60.335(d) for the cogeneration trains may be conducted in lieu of stack sampling for SO_2. If fuel sampling is used, compliance with NSPS, Subpart GG, SO_2 limits shall be based on 100 percent conversion of the sulfur in the fuel to SO_2.

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

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

(1) Proposed date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

(7) Procedure/parameters to be used to determine worst case emissions such as turbine loads during 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. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) to be tested for include (but are not limited to) NO_x, CO, SO_2, and PM_{10}. Air contaminants emitted from the TO (N-19) and the Cogeneration Trains (EPNs N-20A and N-20B) to be tested for include (but is not limited to) NO_x, CO, SO_2, and VOC.

C. Sampling shall occur within 60 days after achieving the maximum operating rate, but not later than 180 days after initial startup of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the 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 Office.

D. The Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) shall operate at maximum production rates during stack emission testing. Each gas turbine shall be tested at a minimum of four points in the normal operating range including the minimum point in the range and at full load for the atmospheric conditions which exist during testing. The duct burner shall be tested at its maximum firing rate while the turbine is operating at base-load. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

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

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

One copy to the TCEQ Regional Office.
One copy to the EPA Region 6 Office, Dallas.

Continuous Determination of Compliance

30. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentrations of the following compounds from each of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14), the Cogeneration Trains (EPNs N-20A and N-20B), the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and the Thermal Oxidizer(EPN N-19): **(PSD, N, 7/12)**

EPN (FIN)	Compounds
N-1 through N-9, and N-16 (H-0100 through H-0900, and H-1000)	NO_x, SO_2, CO, O_2
N-14 (B-7240)	NO_x, SO_2, CO, O_2
N-20A, N-20B	NO_x, SO_2, CO, O_2
N-24A (B-7280), N-24B (B-7290)	NO_x, CO, O_2
N-19 (TO)	CO, O_2

A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division in Austin for requirements to be met.

B. Section 1 below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section 2 applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

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

All CGA exceedances of $\pm$ 15 percent accuracy indicate that the CEMS is out of control.

C. The monitoring data shall be reduced to hourly average concentrations at least once every day, using a minimum of four equally-spaced data paints 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 every day 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 emission rates lb/MMBtu shall be Method 19. Conversion from lb/MMBtu to lb/hr shall be based on each furnaces 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. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

F. Quality-assured (or valid) data must be generated when the monitor 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 Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14), the Cogeneration Trains (EPNs N-20A and N-20B), the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and the Thermal Oxidizer (EPN N-19) 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.

31. The holder of this permit shall additionally install, calibrate, maintain, and operate continuous monitoring systems to monitor and record the average hourly fuel consumption in each cogeneration train. **(PSD, N, 4/99)**

NH_3 Slip

32. The NH_3 concentration in the GTG/HRSG Units 1 and 2 (EPNs N-20A and N-20B), the Cracking Furnaces H-0900 and H-1000(EPNs N-9 and N-16), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) exhaust stacks shall be tested or calculated according to the method and frequency listed below: **(PSD, N, 7/12)**

A. The holder of this permit may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3. The NH_3 concentrations shall be corrected and reported in accordance with paragraph B of the Cogeneration Units condition. Should a CEMS be installed for monitoring NH_3 slip, quality assurance of the NH_3 CEMS shall be accomplished by Phenol Nitroprusside Method, the Indophenol Method, or an equivalent method on a quarterly basis. Results shall be recorded and calculations made to correlate test results to allowable emission rates.

B. As an approved alternative, the NH_3 slip may be measured using a sorbent or stain tube device specific for NH_3 measurement. The frequency of sorbent/stain tube testing shall be daily for the first 60 days of operation, after which, the frequency may be reduced to weekly testing if operating

procedures have been developed to prevent excess amounts of NH_3 from being introduced in the SCR unit and when operation of the SCR unit has been proven successful with regard to controlling NH_3 slip. Daily sorbent or stain tube testing shall resume when the catalyst is within 30 days of its useful life expectancy. These results shall be recorded and used to determine compliance with paragraph B of the Cogeneration Units condition.

For this alternative, if the measured or calculated NH_3 slip concentration exceeds 5 ppm for a consecutive one-hour period, the permit holder shall begin NH_3 testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or the EPA Conditional Test Method (CTM) 27 on a quarterly basis, in addition to the weekly sorbent of stain tube testing. The quarterly testing shall continue until such time as the SCR unit catalyst is replaced; or if the quarterly testing indicates NH_3 slip is 3 ppm or less, the Phenol-Nitroprusside/Indophenol/CTM 27 tests may be suspended until sorbent or stain tube testing again indicate 5 ppm NH_3 slip or greater. These results shall be recorded and used to determine compliance with paragraph B of the cogeneration unit's condition.

C. As an approved alternative to sorbent tube testing, the permit holder may install and operate a second NO_x CEMS probe located between combustion sources and the SCR, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 slip. This condition shall not be construed to set a minimum NO_x reduction efficiency on the SCR unit.

D. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ Regional Office.

33. The holder of this permit shall either measure or develop a program to calculate the total mass flow rate through the HRSG stacks to ensure continuous compliance with the emission limitations specified in the attached MAERT.

A. The exhaust emissions from GTG/HRSG Unit 1 and GTG/HRSG Unit 2 shall be calculated on an hourly basis in lb/hr using the measured or calculated flow rate as provided for by the EPA Reference Method 19 and natural gas flow rates and the concentrations of NO_x and CO from the CEMS required in the Continuous Demonstration of Compliance condition.

B. The hourly calculated values will be cumulatively added during each hour of the month and stored in the computer hard drive and on individually stored discs or other TCEQ-accepted computer media. Records of this information will also be available in a form suitable for inspection. **(PSD, N, 4/99)**

34. In place of using a continuous SO_2 CEM in the Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14) stacks, and the Cogeneration Units 1 and 2 (EPNs N-20A and N-20B) stacks, the holder of this permit may show compliance with the SO_2 allowable by sampling for total sulfur in the fuel gas system. Fuel gas sampling shall be conducted at a frequency of no less than one sample per hour. Sampling results shall be used in conjunction with the appropriate fuel flow for each individual unit to determine the SO_2 emission rate from each furnace, each cogeneration unit, and the boiler. This emission rate shall be converted to units of the permit allowable emission rate in lbs/hr at least once everyday, and cumulative TPY on a 12-month rolling average at least once every month. At least 23 hourly samples shall be conducted every day. Records of the total sulfur sampling results shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request. **(PSD, 12/11)**

In addition, prior to implementing the total sulfur sampling technique, the holder of this permit shall submit a monitoring plan to the Director of the TCEQ Compliance Support Division for review and approval. The plan shall identify the specific sampling method used (for example, ASTM 1072, 40 CFR Part 60, Method 15, etc.), methods of verifying the data, QA and QC procedures, QA and QC frequency, certification of the monitoring method and results, and other parameters as determined necessary by the Director of the TCEQ Compliance Support Division. **(PSD, 2/06)**

Recordkeeping and Reporting Requirements

35. 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, the 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 the Initial Determination of Compliance conditions 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, 4/99)**

36. 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, the EPA, or any air pollution control agency with jurisdiction upon request. **(PSD, N, 7/12)**

A. The average hourly NO_x and CO emissions in lb/MMBtu of heat input for each of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16). Also, data and calculations to demonstrate the annual NO_x and CO emissions in lb/MMBtu of heat input meet the limits set forth in the conditions for the Cracking Furnaces, the Boilers and the Heaters (EPNs N-1 through N-9, N-16, N-14, N-24A, and N-24B) on a 12-month rolling basis.

B. The NO_x, CO, and diluent gases, O_2, or carbon dioxide, 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 turbines and HRSG duct burners.

E. Records of fuel sampling conducted pursuant to the Initial Determination of Compliance conditions.

F. Records of NH_3 emissions sampling and calculations pursuant to theNH_3 slip condition.

G. Written records of any accidental releases, spills, or venting of NH_3 and the corrective action taken.

H. Hours per month that the SCR was in startup.

I. Records of calculations to demonstrate that the individual hourly limits, the individual annual emission limits for EPN N-14, and the annual emission cap for EPNs N-14, N-20A, and N-20B as described in the November 29, 2010 amendment application, confidential section, and shown in the MAERT have been met. These calculations shall be made for NO_x and CO using CEMS data along with either the aforementioned (Continuous Demonstration of Compliance conditions) measurements or program developed to calculate the

total mass flow rate through the HRSG stacks. If CEMS data is not available for the other pollutants then the following order shall be used, based on the availability of data: stack testing data, vendor guarantees, or AP-42 emission factors.

37. Sufficient records shall be kept to demonstrate compliance with the individual hourly and annual maximum allowable emission rate limits and annual emission caps identified in the MAERT for the Flare System (EPNs N-15 and N-15A). Emission calculations shall be performed at least once every calendar quarter beginning in 2006 to demonstrate compliance with all emission rate limits and emission caps identified in the MAERT for the Flare System (EPNs N-15 and N-15A). Beginning in 2012, these calculations and compliance demonstrations shall be performed monthly. Required records, dates, and calculated emissions associated with planned turnaround activities shall be kept and maintained separately beginning with calendar year 2006. All the aforementioned records and calculations shall be kept and maintained at the plant site for a period of five years and made available to a representative of the TCEQ, the EPA, or any air pollution control agency with jurisdiction upon request. **(7/09)**

38. 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 the Continuous Demonstration of Compliance condition. 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. Non-complying NO_x, CO, and SO_2 emissions are any period of continuous operation except during startup or shutdown. 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_x, CO, or SO_2 as measured and recorded by each CEMS, exceed the emission limits set forth in the cracking furnaces, boilers and heaters conditions or the MAERT. If a total sulfur sampling program is implemented for the fuel gas system, each one-hour period of operation, except during start-up or shutdown, during which the emissions of SO_2 exceed the emission limits specified in the MAERT.

    B. Annual emissions shall be defined as a rolling 12-month period during which the 12-month cumulative emissions of NO_x, CO, or SO_2 as measured and recorded by each CEMS, exceed the emission limits set forth in the Cracking Furnaces, Boilers and Heaters conditions or the MAERT. If a total sulfur sampling program is implemented for the fuel gas system, each rolling 12-month period of operation during which the emissions of SO_2 exceed the emission limits specified in the MAERT.

C. If the average NO_x, CO, or NH_3 stack outlet concentration for the cogeneration trains exceeds permitted concentrations identified in the cogeneration units condition for more than one hour, the holder of this permit shall investigate and determine the reason for the exceedance and, if needed, 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. If the NO_x, CO, or NH_3 concentrations exceed the concentrations required by the Cogeneration Units condition for more than 24 hours, the permit holder shall notify the TCEQ Regional Office either verbally or with a written report detailing the cause of the increase in emissions and all efforts being made to correct the problem. **(PSD, N, 3/02)**

39. When the holder of this permit anticipates conducting a major plant turnaround during a given calendar year, the permit holder shall provide the Regional Office written notice of the anticipated major plant turnaround no later than December 15 of the preceding calendar year. The notice shall include the anticipated start and completion dates for the turnaround.

    Upon request by the TCEQ Regional Office, the permit holder shall provide updates or revisions to these plans. **(2/06, PSD, N)**

40. All records and data reporting required to demonstrate compliance with these conditions and the MAERT shall be rounded to the decimal places indicated. Simple truncation at the indicated decimal place shall not be performed. **(1/07)**

Federal Considerations

41. The changes authorized by the as built amendment application received on July 25, 2001, are dependent on the holder of this permit obtaining the required offsets for VOC and NO_x. Emission reductions provided as VOC and NO_x shall total 0.9 TPY VOC and 9.4 TPY NO_x (based on an offset ratio for the Beaumont/Port Arthur nonattainment area of 1.15:1). **(N, 11/02)**

42. This permit authorizes the emissions listed on the MAERT for the Flare System (EPNs N-15, N-15A, and N-15 TEMP), based upon the amendment application dated August 31, 2004, and subsequent revisions (originally authorized for EPN N-15 only, now authorized for EPNs N-15, N-15A, and N-15 TEMP) and amendment application dated February 10, 2011, as follows:

A. With the exception of emissions from planned turnarounds for the year 2009 and beyond, emissions are authorized contingent upon the permanent retirement, no later than 30 days after the approval date of the amendment, of TCEQ Emission Reduction Credit Certificate (ERCC) Nos. 1097, 1555, 1557, and 1558 for 186.2 TPY of VOC offsets. (This requirement has been met)

B. Emissions from planned turnarounds for the year 2009 and beyond are authorized contingent upon the permanent retirement of ERCC Nos. 2317, 2422 and 2423 for 43.2 TPY of VOC emissions. (This requirement has been met)

These ERCCs provide 229.4 tpy offsets for the 196.34 TPY of VOC emission increase (225.9 TPY offsets for the 196.34 TPY of VOC emissions at the offset ratio of 1.15 to 1.0, plus 4.5 tpy surplus offset). **(1/07, N) (5/11)**

Additional Requirements - Flare System

43. Emissions of VOC from the Flare System (EPNs N-15 and N-15A) shall not exceed 100 tons per calendar day. **(2/09)**

Mercury in Naphtha Feed **(3/07)**

44. Subsequent to startup of the plant in 2007 following the addition of silver-coated molecular sieves to the charge gas dryer beds for removal of mercury, the following shall be required:

A. For purposes of this permit, amounts of mercury shall be calculated and expressed as elemental mercury in any form or phase, and shall include the mercury contained in any compound. The cumulative amount of mercury contained in the naphtha fed to the plant between regeneration cycles of the charge gas dryer beds shall not exceed 0.63 pound. This shall be based upon the mercury content of all naphtha feed streams to the plant and shall be calculated daily, and shall be used to demonstrate compliance with the mercury allowable emission rate of 0.63 pound/hour. **(8/07)**

B. The amount of mercury contained in the naphtha fed to the plant shall be totaled monthly and kept on a rolling 12-month basis. This amount shall not exceed the rolling 12-month mercury allowable emission rate of 0.039 TPY. **(8/07)**

C. Sufficient records to demonstrate compliance with paragraphs A and B above, along with all documentation of mercury content of upstream naphtha marine

and pipeline receipts, shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request.

Ethylene Cracking Furnaces - Startup and Spike

45. The Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16) are authorized to have higher hourly emissions of NOx and CO during startups and spikes in normal operations as specified in footnotes (10) and (11) of the maximum allowable emission rates table (MAERT). Records of each event including the hours for each cracking furnace shall be maintained to demonstrate compliance with the MAERT and this special condition. **(PSD, N, 7/12)**

Planned Maintenance Startup and Shutdown

46. This permit authorizes the emissions from the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment C) attached to this permit. **(7/12)**

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;

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.

47. Process units and facilities, with the exception of those identified in Special Conditions 51, 52, 55, and Attachment A shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements. **(11/12)**

A. The process equipment shall be depressurized to a control device or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material that is liquid with VOC partial pressure less than 0.50 psi at the normal process temperature and 95°F may be opened to atmosphere and drained in accordance with paragraph C of this special condition. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.

B. If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. If the VOC partial pressure is greater than 0.50 psi at either the normal process temperature or 95°F, any vents in the system must be routed to a control device or a controlled recovery system. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. Control must remain in place until degassing has been completed or the system is no longer vented to atmosphere.

C. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Liquids must be drained into a closed vessel or closed liquid recovery system unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.

D If the VOC partial pressure is greater than 0.50 psi at the normal process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process

equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC 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 48. The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. If there is not a connection (such as a sample, vent, or drain valve) available from which a representative sample may be obtained, a sample may be taken upon entry into the system after degassing has been completed. The sample shall be taken from inside the vessel so as to minimize any air or dilution from the entry point. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. Documented site procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above.

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

(1) It is not technically practicable to depressurize or degas, as applicable, into the process.

(2) There is not an available connection to a plant control system (flare).

(3) There is no more than 50 lb of air contaminant to be vented to atmosphere during shutdown or startup, as applicable.

All instances of venting directly to atmosphere per Special Condition 47.E must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B.

48. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below. **(7/12)**

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

VOC Concentration = Concentration as read from the instrument*RF
In no case should a calibration gas be used such that the RF of the VOC (or mixture of VOCs) to be monitored is greater than 5.0.

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

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) Prior to use the detector shall be calibrated on a monthly basis with a certified pentane gas standard at 25% of the lower explosive limit (LEL) for pentane. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.

(2) 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.

49. 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; **(7/12)**

    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.

50. Each open-ended valve or line resulting from a plant or unit turnaround shall be exempt from the requirements of Special Condition 49 and the following shall requirements apply. **(11/12)**

    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.

    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.

51. This permit authorizes emissions from EPN TK-2501 during planned floating roof landings. Tank roofs may only be landed for changes of tank service or tank

inspection/maintenance as identified in the permit application. Emissions from change of service tank landings, for which the tank is not cleaned and degassed, shall not exceed 10 tons of VOC in any rolling 12 month period. Tank roof landings include all operations when the tank floating roof is on its supporting legs. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The following requirements apply to tank roof landings. **(11/12)**

A. The tank liquid level shall be continuously lowered after the tank floating roof initially lands on its supporting legs until the tank has been drained to the maximum extent practicable without entering the tank. Liquid level may be maintained steady for a period of up to two hours if necessary to allow for valve lineups and pump changes necessary to drain the tank. This requirement does not apply where the vapor under a floating roof is routed to control or a controlled recovery system during this process.

B. If the VOC partial pressure of the liquid previously stored in the tank is greater than 0.50 psi at 95°F, tank refilling or degassing of the vapor space under the landed floating roof must begin within 24 hours after the tank has been drained unless the vapor under the floating roof is routed to control or a controlled recovery system during this period. The tank shall not be opened except as necessary to set up for degassing and cleaning, Floating roof tanks with liquid capacities less than 100,000 gallons may be degassed without control if the VOC partial pressure of the standing liquid in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. Controlled degassing of the vapor space under landed roofs shall be completed as follows:

(1) Any gas or vapor removed from the vapor space under the floating roof must be routed to a control device or a controlled recovery system and controlled degassing must be maintained until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. The locations and identifiers of vents other than permanent roof fittings and seals, control device or controlled recovery system, and controlled exhaust stream shall be recorded. There shall be no other gas/vapor flow out of the vapor space under the floating roof when degassing to the control device or controlled recovery system.

(2) The vapor space under the floating roof shall be vented using good engineering practice to ensure air contaminants are flushed out of the tank through the control device or controlled recovery system to the extent allowed by the storage tank design.

(3) A volume of purge gas equivalent to twice the volume of the vapor space under the floating roof must have passed through the control device or into a controlled recovery system, before the vent stream may be sampled

to verify acceptable VOC concentration. The measurement of purge gas volume shall not include any make-up air introduced into the control device or recovery system. The VOC sampling and analysis shall be performed as specified in Special Condition 48.

(4) 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.

(5) Degassing must be performed every 24 hours unless there is no standing liquid in the tank or the VOC partial pressure of the remaining liquid in the tank is less than 0.15 psia.

C. The tank shall not be opened or ventilated without control, except as allowed by (1) below until one of the criteria in part D of this condition is satisfied.

(1) Minimize air circulation in the tank vapor space.

a. One manway may be opened to allow access to the tank to remove or de-volatilize the remaining liquid. Other manways or access points may be opened as necessary to remove or de-volatilize the remaining liquid. Wind barriers shall be installed at all open manways and access points to minimize air flow through the tank.

b. Access points shall be closed when not in use

D. The tank may be opened without restriction and ventilated without control, after all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure less than 0.02 psia. These criteria shall be demonstrated in any one of the following ways.

(1) Low VOC partial pressure liquid that is soluble with the liquid previously stored may be added to the tank to lower the VOC partial pressure of the liquid mixture remaining in the tank to less than 0.02 psia. This liquid shall be added during tank degassing if practicable. The estimated volume of liquid remaining in the drained tank and the volume and type of liquid added shall be recorded. The liquid VOC partial pressure may be estimated based on this information and engineering calculations.

(2) If water is added or sprayed into the tank to remove standing VOC, one of the following must be demonstrated:

a. Take a representative sample of the liquid remaining in the tank and verify no visible sheen using the static sheen test from 40 CFR 435 Subpart A Appendix 1.

b. Take a representative sample of the liquid remaining in the tank and verify hexane soluble VOC concentration is less than 1000 ppmw using EPA method 1664 (may also use 8260B or 5030 with 8015 from SW-846).

c. Stop ventilation and close the tank for at least 24 hours. When the tank manway is opened after this period, verify VOC concentration is less than 1000 ppmv through the procedure in Special Condition 48.

(3) No standing liquid verified through visual inspection.

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

E. Tanks shall be refilled as rapidly as practicable until the roof is off its legs with the following exceptions:

(1) Only one tank with a landed floating roof can be filled at any time at a rate not to exceed 34,808 gal/hr.

(2) The vapor space below the tank roof is directed to a control device when the tank is refilled until the roof is floating on the liquid. The control device used and the method and locations used to connect the control device shall be recorded. All vents from the tank being filled must exit through the control device.

F. The occurrence of each roof landing and the associated emissions shall be recorded and the rolling 12-month tank roof landing emissions shall be updated on a monthly basis. These records shall include at least the following information:

(1) the identification of the tank and emission point number, and any control devices or recovery systems used to reduce emissions;

(2) the reason for the tank roof landing;

(3) for the purpose of estimating emissions, the date, time, and other information specified for each of the following events:

a. the roof was initially landed,

b. all liquid was pumped from the tank to the extent practical,

c. start and completion of controlled degassing, and total volumetric flow,

d. all standing liquid was removed from the tank or any transfers of low VOC partial pressure liquid to or from the tank including volumes and vapor pressures to reduce tank liquid VOC partial pressure to <0.02 psi,

e. if there is liquid in the tank, VOC partial pressure of liquid, start and completion of uncontrolled degassing, and total volumetric flow,

f. refilling commenced, liquid filling the tank, and the volume necessary to float the roof; and

g. tank roof off supporting legs, floating on liquid;

(4) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted between events c and g with the data and methods used to determine it. The emissions associated with roof landing activities shall be calculated using the methods described in Section 7.1.3.2 of AP-42 "Compilation of Air Pollution Emission Factors, Chapter 7 - Storage of Organic Liquids" dated November 2006 and the permit application.

52. Prior to performing maintenance on the fixed roof tank that stores sulfuric acid, the tank shall be drained and any residual acid in the tank shall be neutralized with non-VOC caustic solution and water. **(7/12)**

53. The following requirements apply to vacuum and air mover truck operations to support planned MSS at this site: **(7/12)**

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 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 49.A or B.

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 53.(B)(3)(a) through 53.(B)(3)(d) do not apply.

f. A maximum of one uncontrolled vacuum truck or 10 controlled vacuum trucks may be filled simultaneously as long as the total emissions do not exceed 0.58 lbs/hr of VOC.

54. 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 58. Emissions from temporary facilities are authorized provided the temporary facility: **(11/12)**

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.

55. The following requirements apply to frac, or temporary, tanks and vessels used in support of MSS activities. **(7/12)**

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.

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.

56. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity. **(7/12)**

57. All permanent facilities at this site must comply with all operating requirements, limits, and representations in the special conditions identified in this permit and in other NSR permits during planned startup and shutdown unless alternate requirements and limits are identified in this permit. Alternate requirements are identified below: **(7/12)**

    A. Combustion units, with the exception of flares, at this site are exempt from NH_3, NO_X, and CO operating requirements in the special conditions during planned startup and shutdown if the following criteria are satisfied:

        (1) The maximum allowable emission rates in the permit authorizing the facility are not exceeded.

        (2) The startup period does not exceed 8 hours in duration and the firing rate does not exceed 75 percent of the design firing rate. The time it takes to complete the shutdown does not exceed 4 hours. Unit N-12 is allowed to take up to 24 hours for startup.

        (3) Control devices are started and operating properly when venting a waste gas stream.

    B. A record shall be maintained indicating that the start and end times of each of the activities identified above occur and documentation that the requirements for each have been satisfied.

58. 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. **(11/12)**

    Controlled recovery systems identified in this permit shall be directed to an operating 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 downstream 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 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 a detector meeting the requirements of Special Condition 48.A or 48.B.

(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 percent 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.

B. The flare system shall meet the requirements in Special Condition 14.

C. A liquid scrubbing system may be used upstream of carbon adsorption. A single carbon can or a liquid scrubbing system may be used as the sole control device if the requirements below are satisfied.

(1) The exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the scrubber.

(2) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition 48.A.

(3) An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible when the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded.

59. The following requirements apply to capture systems for the plant flare system. **(7/12)**

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.

or

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

(1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

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

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

E. 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.

60. 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 of Special Condition 46.A through 46.D. 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 46 rather than documenting all the information required by Special Condition 46 parts A through D. **(11/12)**

61. 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 46 through 62 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. **(11/12)**

62. The following limitations are prescribed to reinforce the assumptions made in the MSS emission calculations and Air Quality Analysis submitted in April 2011. These limitations are to be followed in addition to the general MSS conditions in this permit. **(11/12)**

A. Emissions from equipment clearing shall not occur until emissions are controlled down to 1,000 ppmv.

B. Equipment venting of styrene shall not exceed 0.0653 lb/hr.

C. Equipment venting of benzene shall not exceed 0.0108 lb/hr

D. Equipment venting of 1, 3-butadiene shall not exceed 0.0075 lb/hr

E. Records demonstrating compliance with the lb/hr limitations for equipment venting in Special Condition 62.B through 62.D shall be kept on-site for at least two years. These records shall include the date, vent duration, chemical composition, molecular weight, equipment ID and parts per million by volume of the chemical vented to the atmosphere.

63. The Cogen Starting Engines Unit#20A and #20B (EPNs GTENG-1 and GTENG-2) shall each operate a maximum of 96 hours per year. They are utilized during the MSS activities of the gas-fired turbine generators in the Cogeneration Units 20A and 20B. Emissions from each engine shall not exceed 10.53 grams per horsepower-hour (gm/hp-hr) of nitrogen oxide (NOx) and 3.31 gm/hp-hr of carbon monoxide (CO). Records of the operating hours shall be maintained. **(7/13)**

Date: July 23, 2013

Permit 36644
Attachment A
INHERENTLY LOW EMITTING ACTIVITIES

Activity	Emissions				
	VOC	NOx	CO	PM	H_2S/SO_2
Maintenance Chemicals / Lubricants	X			X	
Replace analyzer filters	X				
Calibrate analyzers	X				
Analyzer purging	X				
Sample purging	X				
Sample media changing	X				
Instrumentation maintenance	X				
Carbon canister replacement	X				
Drain equipment to controlled sewer	X				

Date: July 20, 2012

Permit 36644
Attachment B
ROUTINE MAINTENANCE ACTIVITIES

These activities are tracked by work orders or an equivalent tracking systems. Volumes purged are typically <50 cubic feet.

Pump repair/replacement
Fugitive component (valve, pipe, flange) repair/replacement
Compressor repair/replacement
Heat exchanger repair/replacement
Vessel repair/replacement
Catalyst loading
Filter changes
Pipeline pigging

Date: July 20, 2012

Permit 36644
Attachment C
MSS ACTIVITY SUMMARY

Facilities	**Description**	**Emissions Activity**	**EPN**
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 adsorption system	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
Floating Roof Tanks	Tank roof landing	Operation with landed roof	MSS CAP
Floating Roof Tanks	Degas of tank with landed roof	Controlled degassing	MSS CAP
Attachment A Activities			MSS Cap
Attachment B Activities			MSS/TA Cap

Date: July 20, 2012

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 36644, PSDTX903M5, and N007M1

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

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-1	Recycle Ethane Cracking Furnace H-0100	NO_x (7) (10)	48.32	-
		NO_x (7)	24.16	79.37
		SO_2 (7)	2.21	4.83
		CO (7) (11)	46.50	-
		CO (7)	23.25	101.85
		PM_{10} (7)	1.51	6.61
		VOC (7)	0.57	2.51
N-2	Fresh Feed Cracking Furnace H-0200	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-3	Fresh Feed Cracking Furnace H-0300	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-4	Fresh Feed Cracking Furnace H-0400	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-5	Fresh Feed Cracking Furnace H-0500	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-6	Fresh Feed Cracking Furnace H-0600	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-7	Fresh Feed Cracking Furnace H-0700	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-8	Fresh Feed Cracking Furnace H-0800	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-9	Fresh Feed Cracking Furnace H-0900 (487.5 MMBtu/hr maximum)	NO_x (7) (10)	48.75	-
		NO_x (7)	12.19	21.35
		SO_2 (7)	5.60	24.53
		CO (7) (11)	34.13	-
		CO (7)	17.06	74.73
		PM_{10} (7)	3.63	15.91
		VOC (7)	2.63	11.51
		NH_3	1.98	8.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-16	Fresh Feed Cracking Furnace H-1000 (487.5 MMBtu/hr maximum)	NO_x (7) (10)	49.80	-
		NO_x (7)	12.45	21.81
		SO_2 (7)	4.48	8.72
		CO (7) (11)	69.72	-
		CO (7)	17.43	76.34
		PM (7)	2.49	10.91
		PM_{10} (7)	2.49	(15)
		$PM_{2.5}$ (7)	2.49	(15)
		VOC (7)	2.69	11.76
		NH_3	1.98	8.68
N-10	Catalyst Regeneration Effluent	VOC (7)	15.83	0.08
		CO	373.33	1.89
N-11	Reactor Regeneration Effluent (Startup, Shutdown, and Maintenance)	CO	161.43	135.57
		VOC (7)	0.13	0.11
N-12	DP Reactor Feed Heater	NO_x (7)	5.01	13.71
		SO_2 (7)	0.44	0.95
		CO (7)	4.40	12.26
		PM_{10} (7)	0.38	1.64
		VOC (7)	0.17	0.74
	DP Reactor Feed Heater Startup Emission Rate	CO (7)	14.50	1.74

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-13	DP Reactor Regeneration Heater	NO_x (7)	1.73	1.42
		SO_2 (7)	0.14	0.10
		CO (7)	2.37	3.13
		PM_{10} (7)	0.13	0.17
		VOC (7)	0.06	0.08
N-14	Auxiliary Boiler	NO_x	13.60	
		SO_2	1.24	
		CO	15.60	
		PM_{10}	1.58	
		VOC	1.58	
N-20A	GTG HRSG Unit 1 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_x	17.65	
		SO_2	4.53	
		CO	89.51	
		PM_{10}	5.55	
		$PM_{2.5}$	5.55	
		VOC	4.09	
		NH_3	7.61	28.20
N-20B	GTG HRSG Unit 2 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_x	17.65	
		SO_2	4.53	
		CO	89.51	
		PM_{10}	5.55	
		$PM_{2.5}$	5.55	
		VOC	4.09	
		NH_3	7.61	28.20

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
Emission Point Nos. N-14, N-20A, and N-20B are subject to the following combined annual emission caps for the specified pollutants:				
N-14, N-20A, and N-20B	Annual Emission Caps	NO_x	-	102.96
		SO_2	-	8.27
		CO	-	349.85
		PM_{10}	-	46.78
		$PM_{2.5}$	-	(15)
		VOC	-	32.17
N-15 and N-15A	Flare System - Calendar Year 2008 (No Planned Turnarounds in 2008) (8)(9)	NO_x (7)	2219.70	243.30
		SO_2 (7)	165.80	3.80
		CO (7)	15794.40	559.20
		VOC (7)	24418.10	486.60
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	860.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2009 and 2010 (8)(9)	NO_x (7)	2219.70	169.80
		SO_2 (7)	165.80	2.70
		CO (7)	15794.40	390.10
		VOC (7)	24418.10	339.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	600.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2011 (8)(9)	NO_x (7)	2219.70	101.80
		SO_2 (7)	165.80	2.22
		CO (7)	15794.40	325.13

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		VOC (7)	24418.10	203.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	408.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2012 (8)(9)	NO_x (7)	2219.70	101.80
		SO_2 (7)	165.80	1.60
		CO (7)	15794.40	233.90
		VOC (7)	24418.10	203.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	359.70
N-15 and N-15A	Flare System (Emissions from Planned Turnarounds) - Year 2012 and beyond (8)(9)	NO_x (7)		84.90
		SO_2 (7)		1.30
		CO (7)		195.10
		VOC (7)		172.70
		H_2S		0.10
	Annual Cap	VOC, NO_x, and CO	-	300.00
N-18	Decoking Drum	CO (7)	3360.00	204.09
		PM_{10} (7)	78.73	3.98
		$PM_{2.5}$ (7)	78.73	(15)
N-19	Thermal Oxidizer	NO_x (7)	0.24	0.88
		SO_2 (7)	0.08	0.28
		CO (7)	0.21	0.77
		PM_{10} (7)	0.04	0.13
		VOC (7)	0.03	0.14

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-21A	Fire Pump Diesel Engine (6)	NO_x (7)	15.81	1.23
		SO_2 (7)	1.05	0.08
		CO (7)	3.41	0.27
		PM_{10} (7)	1.12	0.09
		VOC (7)	1.26	0.10
N-21B	Fire Pump Diesel Engine (6)	NO_x (7)	15.81	1.23
		SO_2 (7)	1.05	0.08
		CO (7)	3.41	0.27
		PM_{10} (7)	1.12	0.09
		VOC (7)	1.26	0.10
N-22	Carbon Bed Adsorber	Benzene	0.31	0.11
N-23	Ammonia Scrubber	NH_3	0.12	0.51
N-24A	Boiler B-7280 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66
		NO_x (Routine)	4.25	16.64
		NO_x (Startup)	17.02	1.23
		CO (7)	14.89	18.31
		SO_2	7.91	16.67
		PM_{10} (7)	2.13	8.32
		$PM_{2.5}$ (7)	2.13	(15)
		NH_3	1.87	7.33

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-24B	Boiler B-7290 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66
		NO_x (Routine)	4.25	16.64
		NO_x (Startup)	17.02	1.23
		CO (7)	14.89	18.31
		SO_2	7.91	16.67
		PM_{10} (7)	2.13	8.32
		$PM_{2.5}$ (7)	2.13	(15)
		NH_3	1.87	7.33
N-24A and N-24B	Annual Cap - Boilers B-7280 and B-7290	SO_2	-	23.42
N-1 through N-9, N-14, N-15, N-15A, N-16, N-19, N-20A, and N-20B	Fresh Feed Cracking Furnaces, Auxiliary Boiler, Flare System, Cogeneration Facility, and Thermal Oxidizer (9)	Mercury (9)	0.63	0.039
TK-2501	IFR Spent Caustic	VOC (7)	0.32	0.35
TK-8001	IFR WW Equalization	VOC (7)	0.39	0.62
TK-8101	EFR Contaminated Stormwater	VOC (7)	0.49	0.49
TK-7702	Sulfuric Acid Tank	H_2SO_4	0.01	0.01
		SO_3	0.01	0.01
F-1	Fugitives (12)	VOC (7)	9.43	41.31
F-2 and F-2A	Cooling Tower System	PM_{10} (7)	2.13	2.76
		VOC (5) (7)	25.00	42.45
		Benzene	0.50	1.99

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
F-4	Benzene/Toluene Process Fugitives (12)	VOC (7)	0.67	2.94
		H_2S	0.01	0.02
F-5	C4 Huntsman Pipeline Fugitives (12)	VOC	0.01	0.03
BOIL-AMM	Fugitives: Boilers 7280 and 7290 - Ammonia Injection System (12)	NH_3	0.01	0.02
COG-AMM-1	Ammonia Fugitives: Storage Tank and Vaporizer (12)	NH_3	0.01	0.06
COG-AMM-2	Ammonia Fugitives: GTG/HRSG Unit 2 SCR - Ammonia Injection System (12)	NH_3	0.01	0.01
COG-AMM-3	Ammonia Fugitives: GTG/HRSG Unit 1 SCR - Ammonia Injection System (12)	NH_3	0.01	0.01
FURN-AMM	Ammonia Fugitives: Fresh Feed Cracking Furnaces H-0900 and H-1000- Ammonia Injection System (12)	NH_3	0.03	0.11
PLANNED TURNAROUND AND MSS CAPs				
TA CAP	Turnaround CAP (Non-Flare)	VOC	16.03	4.61
		PM	0.30	2.08
		PM_{10}	0.02	(15)
		$PM_{2.5}$	0.01	(15)
MSS Cap	MSS CAP (Non-Flare)	VOC	17.52	4.72
		PM	0.74	1.43
		PM_{10}	0.49	(15)
		$PM_{2.5}$	0.03	(15)
N-1	Recycle Ethane Cracking Furnace H-0100 Startup	NOx	48.32	(13)
		CO	93.02	(13)

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-2	Fresh Feed Cracking Furnace H-0200 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-3	Fresh Feed Cracking Furnace H-0300 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-4	Fresh Feed Cracking Furnace H-0400 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-5	Fresh Feed Cracking Furnace H-0500 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-6	Fresh Feed Cracking Furnace H-0600 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-7	Fresh Feed Cracking H-0700 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-8	Fresh Feed Cracking H-0800 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-9	Fresh Feed Cracking H-0900 Startup	NOx	48.75	(13)
		CO	34.13	(13)
N-16	Fresh Feed Cracking H-1900 Startup	NOx	49.80	(13)
		CO	69.72	(13)
N-12	DP Reactor Feed Heater Startup	NOx	15.02	(13)
		CO	14.52	(13)

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-13	DP Reactor Regeneration Heater	NOx	3.45	(13)
		CO	4.74	(13)
N-14	Auxiliary Boiler Startup	NOx	27.12	(13)
		CO	31.19	(13)
N-20A	GTG HRSG Unit 1 Startup	NOx	123.53	(13)
		CO	716.12	(13)
N-20B	GTG HRSG Unit 2 Startup	NOx	123.53	(13)
		CO	716.12	(13)
N-24A	Boiler B-7280 Startup	NOx	17.02	(13)
		CO	29.78	(13)
N-24B	Boiler B-7290 Startup	NOx	17.02	(13)
		CO	29.78	(13)
GTGENG-1	Cogen Starting Engine Unit #20A (14)	VOC	0.01	0.01
		NOx	16.48	0.79
		CO	5.17	0.25
		SO_2	0.01	0.01
		PM_{10}	0.71	0.03
		$PM_{2.5}$	0.71	(15)
GTGENG-2	Cogen Starting Engine Unit #20B (14)	VOC	0.01	0.01
		NOx	16.48	0.79
		CO	5.17	0.25
		SO_2	0.01	0.01
		PM_{10}	0.71	0.03
		$PM_{2.5}$	0.71	(15)

Emission Sources - Maximum Allowable Emission Rates

(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
CO - carbon monoxide
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
SO_3 - sulfur trioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
H_2S - hydrogen sulfide
H_2SO_4 - sulfuric acid
NH_3 - ammonia
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. Beginning January 1, 2006, compliance with annual emission limits is based on a rolling 12-month period with the following exception: allowable emission rates and emission caps for the Ground Flare (EPN N-15) will be based upon calendar years for 2006 through 2011 and will be based on a rolling 12-month period beginning January 1, 2012.
(5) The VOC emission rates from the cooling tower are for total VOC, including benzene.
(6) Emissions from the fire pump diesel engines are based on 156 hours per year operation. Non-emergency fire pump operations shall only occur between the hours of 8:00 a.m. and 5:00 p.m. (one engine at any one time.
(7) These emissions are permitted under PSD or Nonattainment review in addition to State.
(8) Turnarounds are planned for 2006 and 2007 for inspection and maintenance, and for implementation of improvements required by the Texas Commission on Environmental Quality Agreed Order approved and signed March 23, 2005, (Docket Number 2003-1317-AIR-E). Thereafter, consistent with the plant's original design basis, planned turnarounds are expected at nominal intervals of once every five years for purposes such as catalyst replacement, equipment inspection, and equipment repair or replacement.
(9) These are emission caps for the stated EPNs. Mercury shall be calculated and expressed as elemental mercury in any form or phase and shall include the mercury contained in any compound.
(10) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 150 total hours in any 12-month period during which emissions from one or more furnaces (EPNs N-1 through N-8, N-9, and N-16) exceed the routine lbs/hr emission limit. Annual emissions are included in the rates of normal operations.
(11) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 876 total hours in any 12-month period. Annual emissions are included in the rates of normal operations.
(12) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
(13) Annual emission rates are included in each EPN's respective routine emission rates.
(14) Each engine is authorized to operate for up to 96 total hours in any 12-month period.
(15) Annual emission rates of PM_{10} and $PM_{2.5}$ are included in PM annual emissions. Annual emission rates of $PM_{2.5}$ are included in PM_{10} annual emissions

Date: July 23, 2013

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT FOR GREENHOUSE GAS EMISSIONS ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-903-GHG

PERMITTEE: BASF FINA Petrochemicals LP
State Hwy 366, Gate 99
Port Arthur, TX 77642

FACILITY NAME: BASF FINA Petrochemicals LP
NAFTA Region Olefins Complex

FACILITY LOCATION: State Hwy 366, Gate 99
Port Arthur, TX 77642

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to BASF FINA Petrochemicals LP for Greenhouse Gas (GHG) emissions. The Permit applies to the addition of a new ethylene cracking furnace and modifications to existing supporting units at their facility located in Port Arthur, Texas.

BASF is authorized to construct ethylene furnace 10 and modify existing units as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) PSD permit No. PSD-TX-903M5. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve BASF of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b)(3), this PSD Permit becomes effective immediately upon issuance of this final decision.

Carl E. Edlund, Director
Multimedia Planning and Permitting Division

08/24/12
Date

BASF FINA Petrochemicals LP (PSD-TX-903-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions

PROJECT DESCRIPTION

The proposed modification will add a 10th ethylene cracking furnace to the existing ethylene cracking train at the BASF FINA Petrochemicals LP (BFLP) Facility in Port Arthur, Texas. The 10th furnace will be capable of cracking multiple hydrocarbon feedstocks, but will be optimized to handle ethane gas. The energy required for cracking gaseous feedstocks is inherently less than that required for cracking liquids, such as naphtha, and thus the ethylene furnace will fire at a reduced rate while cracking gaseous feedstocks. The reduced rate will limit the amount of heat recovery and subsequent steam generation that would otherwise take place while the unit is cracking liquid feedstocks. The loss in heat recovery steam generation capacity under the gaseous operating mode will be supplemented by existing support facilities. For this reason, the permit also authorizes modifications to existing support facilities to provide steam needed to operate other plant equipment/processes while cracking gaseous feedstocks. The ethane feedstock will also increase the facility's production of hydrogen, a secondary product resulting from the ethylene cracking process. With this construction permit, BASF intends to increase the total production of ethylene at the BFLP facility to 2.87 billion pounds per year.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

Emission Unit Id. No.	EPN	Description
H-1000	N-16	Ethylene Cracking Furnace No. 10 (Combustion Unit). Unit has a maximum design heat input rate of 498 MMbtu/hr, is capable of combusting multiple fuels, and will be equipped with a Selective Catalytic Reduction (SCR) system.
B-7280 B-7290	N-24A N-24B	2 Steam Package Boilers (Combustion Units). Each unit has a maximum design heat input rate of 425.4 MMbtu/hr, and is equipped with Selective Catalytic Reduction (SCR) controls.
DB-1 DB-2	N-20A N-20B	2 Auxiliary Gas Turbine Duct Burners (Combustion Units). Each unit has a maximum design heat input rate of 310.4 MMbtu/hr, and is equipped with Selective Catalytic Reduction (SCR) controls.
D-1801	N-18	Decoking Drum (10th Furnace Operations Only)
P-FUG	F-1	Process Fugitives (10th Furnace Project Only)
HFC-FUG	F-5	HFC Containing Equipment, consisting of a new CEMS cabinet AC with a 22 ounce charge of R-422D, and 6 new 6-ton electrical equipment cooling units each with a 12 lb. charge of R-410A. (10th Furnace Project Only)

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.

2. In addition, Permittee shall notify EPA in writing within 10 days of any such failure described under Section I.D.1. of this permit. Within 10 days of the restoration of normal operations, Permittee shall provide a written supplement to the notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure,

the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III of this permit, and the methods utilized to mitigate emissions and restore normal operations.

3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ PSD Permit PSD-TX-903M5 (when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

AC	Air Conditioner
BACT	Best Available Control Technology
BFLP	BASF Fina Petrochemicals LP
CAA	Clean Air Act
CC	Carbon Content
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH_4	Methane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry Standard Cubic Foot
EF	Emission Factor
EPN	Emission Point Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
gr	Grains
GWP	Global Warming Potential
HHV	High Heating Value
hr	Hour
HRSG	Heat Recovery Steam Generating
LAER	Lowest Achievable Emission Rate
lb	Pound
LDAR	Leak Detection and Repair
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
N_2O	Nitrous Oxides
NSPS	New Source Performance Standards
OC	Oxidation Catalyst
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RATA	Relative Accuracy Test Audit
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
HFC	Hydro Fluorocarbon
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPY	Tons per Year
USC	United States Code
VOC	Volatile Organic Compound

II. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 365-day total, rolling daily, shall not exceed the following:

Table 1. Annual Emission Limits[1]

Unit ID	EPN	Description	GHG Mass Basis		TPY CO_2e[2,3]	BACT Requirements
				TPY[2]		
H-1000	N-16	Ethylene Cracking Furnace	CO_2	255,735	256,914	Flue Gas Exhaust Temperature ≤ 309 °F. See permit condition III.B.1.j.
			CH_4	14.2		
			N_2O	2.8		
B-7280 and B-7290	N-24A N-24B	2 Steam Package Boilers[4]	CO_2	420,095	421,399	Minimum Thermal Efficiency of 77%. See permit condition III.B.2.h.
			CH_4	22.0		
			N_2O	4.4		
GTG1-DB	N-20A	Gas Turbine Auxiliary Duct Burner	CO_2	117,786	118,329	Minimum Thermal Efficiency of 60%. See permit condition III.B.3.g.
			CH_4	6.5		
			N_2O	1.3		
GTG2-DB	N-20B	Gas Turbine Auxiliary Duct Burner	CO_2	117,786	118,329	Minimum Thermal Efficiency of 60%. See permit condition III.B.3.g.
			CH_4	6.5		
			N_2O	1.3		
D-1801	N-18	10th Furnace Decoking Drum Operations	CO_2	571	571	Proper furnace design and operation. See permit conditions III.B.1.f.
P-FUG	F-1	Fugitive Process Emissions	CH_4	Not Applicable	Not Applicable	Implementation of LDAR Program. See permit condition III.B.4.a.
Totals			**CO_2**	**911,451**	**CO_2e 915,542**	
			CH_4	**49**		
			N_2O	**10**		

1. Compliance with the annual emission limits (tons per year) is based on a 365-day total, rolled daily.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions only from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): $CH_4 = 21$, $N_2O = 310$
4. The steam package boilers have a combined annual refinery fuel gas (RFG) firing limit equivalent to one boiler firing RFG at capacity for 8,760 hrs per year.

III. SPECIAL PERMIT CONDITIONS

A. Fuel Use Conditions, Monitoring, and Recordkeeping

Table 2. Permitted Fuel Types and Average Parameters[1]

Fuel ID	Description	HHV (btu/scf)[2]	CO_2 EF (lb/MMbtu)[2]	Carbon Content (CC) (kg C / kg of fuel)[2]
1	Pipeline Quality Natural Gas (NG)	1020	115.93	0.7267
2	Low Pressure Fuel Gas (LPFG)	979	105.59	0.7262
3	High Pressure Fuel Gas (HPFG)	1023	119.09	0.7267
4	Refinery Fuel Gas (RFG)[3]	1180	133.20	0.7393
5	FCCU Supply Fuel Gas (FCCU SFG)[3]	1165	130.27	0.7131
6	FCCU Return Fuel Gas (FCCU RFG)[3]	900	115.12	0.5966
7	High Hydrogen Fuel (HHF)	373	24.89	0.2818

1. These average parameters are descriptive only, and are not enforceable parameters.
2. CC and HHV will be calculated according to equation C-2b as specified in 40 CFR Part 98 Subpart C §98.33(a)(2)(ii)(A).
3. Fuel supplied from adjacent TOTAL refinery.

Table 3. Combustion Unit Fuel Restrictions and Heat Input Limits

Unit ID	Unit Description	Allowable Fuels (ID)[1]	Annual Average Firing Rate (MMbtu/hr)[2]
N-16	Ethylene Cracking Furnace	1, 2, 3, 7	490.69[3]
N-24A N-24B	Steam Package Boilers	1, 2, 3, 4, 5, 6, 7	380[4]
N-20A N-20B	Gas Turbine Auxiliary Duct Burners	1, 2, 3, 7	226[5]

1. Fuel ID numbers are from Table 1.
2. Maximum firing rates based on the units design capacity. Rates shown are per unit.
3. Has a maximum hourly firing rate of 498 MMbtu/hr.
4. Has a maximum hourly firing rate of 425.4 MMBtu/hr.
5. Has a maximum hourly firing rate of 310.4 MMBtu/hr.

1. All fuel combustion units subject to the GHG limits contained in Table 1 shall be limited to combusting the individual or any combination of the specific fuels listed for each unit in Table 3.
2. Any of the hydrogen-rich product stream not slated to fulfill contract commitments shall be utilized to the maximum extent possible by the plant equipment as fuel to supplement operational Btu requirements.
3. All fuel combustion units identified in this permit shall have fuel metering for each individual fuel, either combusted alone or in combination with any other allowable fuels, and Permittee shall:

a. Measure and record the fuel flow rate using an operational non-resettable elapsed flow meter for fuel fired in ethylene cracking furnace (N-16) and standard flow meters for the steam package boilers (N-24A and N-24B) continuously.
b. Record the total fuel combusted for each type of authorized fuel monthly.
c. Conduct monthly fuel sampling and analysis for each fuel type combusted during the calendar month using an approved method identified at 40 CFR 98.244(b)(4). The analysis shall at a minimum allow for the determination of the fuels volumetric heat content, carbon content, and molecular composition. The profile shall be used to determine the fuel molecular weight.
d. The fuel gross calorific value [high heat value (HHV)], carbon content and, if applicable, molecular weight, shall be determined, at a minimum, semiannually by the procedures contained in 40 CFR Part 98.34(b)(3). Records of the fuel gross calorific value shall be maintained for a minimum period of five years. Upon request, Permittee shall provide a sample and/or analysis of the fuel that is fired in any unit covered by this permit at the time of the request, or shall allow a sample to be taken by EPA for analysis.
e. Pipeline Quality Natural Gas (Fuel ID 1) shall be exempt from this requirement (III.A.3.c.) provided Permittee receives and maintains monthly records of the vendor's analysis, and the data is of sufficient quality to yield further analysis as required above.
f. Permittee shall update monthly, and maintain a 12 month rolling total of the units firing rate to demonstrate compliance with the heat input limits established in Table 3. The annual (12-month total) heat input shall be calculated in accordance with equation 1.

Equation 1 - Heat Input (MMbtu) for units covered under Table 3:

$$\sum_{i=1}^{12}\sum_{j=1}^{k} FF_j * HHV_j * 10^{-6}$$

where:
- i = Start of 12 month rolling total period (current month, previous year)
- 12 = End of 12 month rolling total period (previous calendar month)
- j = Combusted fuel type (1 iteration for each fuel type combusted)
- k = Total number of fuels combusted during compliance month
- FF = Monthly fuel flow (scf) for fuel j
- HHV = High heating value (btu/scf) for fuel j

4. Combinations of unmetered individual fuel streams may also be fed to the combustion units identified in this permit provided each combined fuel stream is metered and analyzed as required for the individual fuel streams in condition III.A.3 of this permit.

B. Emission Unit Work Practice Standards, Operational Requirements, and Monitoring

1. Ethylene Cracking Furnace (N-16)

   a. Furnace 10 (N-16) is limited to an annual production rate of 420,000,000 pounds of ethylene. Compliance with this limit shall be demonstrated based on monthly production totals summed on a 12-month rolling basis.
   b. Compliance with the Annual Emission Limit shall be demonstrated on a rolling 12-month basis calculated in accordance with 40 CFR Part 98 Subpart C, equation C-5 for CO_2. CH_4 and N_2O emissions shall be calculated in accordance with 40 CFR Part 98 Subpart C §98.33(c) on a12-month rolling basis.
   c. Permittee shall maintain all production data, on a daily basis, to include: records of daily feedstock process rates (type of feedstock and the mass or volume of each feedstock processed) and daily ethylene production (mass basis).
   d. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
   e. Permittee shall perform preventative maintenance check of oxygen control analyzers and document quarterly.
   f. The furnace coils shall be decoked, using decoking drum (N-18), no more than 13 times on a 12 month rolling basis.
   g. One-hour maximum firing rates shall be recorded daily to demonstrate compliance with the maximum firing rate of 498 MMBtu/hr.
   h. The ethylene cracking furnace shall have an annual average firing rate, not to exceed, 490.69 MMBtu/hr.
   i. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.1.f.and III.B.1.g.
   j. Permittee shall continuously monitor and record the flue gas exhaust temperature hourly and limit the temperature to less than or equal to 309 °F on a 365-day rolling average basis.

2. Steam Package Boilers (N-24A and N-24B)

   a. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
   b. Permittee shall perform a preventative maintenance check of oxygen control analyzers and document quarterly.
   c. Permittee shall perform boiler burner tune-ups at a minimum of annually.
   d. The two steam package boilers are limited to firing refinery fuel gas (RFG) to no more than 8,760 hours per year for both combined.
   e. The maximum firing rate for the boilers shall not exceed 425.4 MMBtu/hr per unit.
   f. The boilers shall have an annual average firing rate, not to exceed, 380 MMBtu/hr per unit.
   g. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.2.e. and III.B.2.f.

h. The permittee shall maintain a minimum overall thermal efficiency of 77% on a 12-month rolling average basis, calculated monthly, for emission units N-24A and N-24B.
i. Thermal efficiency shall be calculated using the following equation:

$$Boiler\ Efficiency = \frac{(steam\ flow\ rate\ x\ steam\ enthalpy) - (feedwater\ flowrate\ x\ feedwater\ enthalpy)}{Fuel\ firing\ rate\ x\ Gross\ Calorific\ Value\ (GCV)} * 100$$

3. Gas Turbine Auxiliary Duct Burners (N-20A and N-20B)

a. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
b. Permittee shall perform annual tune-ups of duct burners to maintain optimal thermal efficiency.
c. Permittee shall continue operation of the existing condensate recovery, HRSG blowdown heat recovery, and economizers to maintain optimal thermal efficiency.
d. The maximum firing rate for the duct burners shall not exceed 310.4 MMBtu/hr per unit.
e. The duct burners shall have an annual average firing rate, not to exceed, 226 MMBtu/hr per unit.
f. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.3.d. and III.B.3.e.
g. The permittee shall maintain a minimum overall thermal efficiency of 60% on a 12-month rolling average basis, calculated monthly, for emission units N-20A and N-20B.
h. Efficiency will be demonstrated by the following equation:

$$Unit\ Efficiency = \frac{Heat\ Content\ of\ Steam\ Produced + Heat\ Content\ of\ Power\ Produced}{Heat\ Content\ of\ Fuel\ Supply} * 100$$

4. Process Fugitives (F-1)

a. The permittee shall implement the TCEQ 28LAER leak detection and repair (LDAR) program for fugitive emissions of methane.

5. HFC - Fugitive Emission Sources

a. All HFC equipment identified and associated with the 10th furnace project shall be serviced by qualified technicians meeting the requirements of section 608 under the CAA.
b. All service records shall be maintained in accordance with the requirements under section III in this PSD permit.
c. Release of HFCs will be considered a malfunction or emergency event. Releases due to a malfunction are not authorized by this permit.

C. Continuous Emissions Monitoring System (CEMS)

1. As an alternative to Special Condition III.B.1. i, III.B.2.h, or III.B.3.g, permittee may install a CO_2 CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO_2 emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1.
2. Permittee shall ensure that all required CO_2 monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
3. Permittee shall ensure compliance with the specifications and test procedures for CO_2 emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.
4. Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 60, Appendix F for the CO_2 emission monitoring system.

IV. Recordkeeping

A. Records

1. In order to demonstrate compliance with the GHG emission limits in Table 1, the permittee will monitor the following parameters and summarize the data on a calendar month basis.

    a. Operating hours for all air emission sources;
    b. Records of the fuel type, from Table 2, consumed by each source
    c. The fuel usage for all combustion sources, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate);
    d. Semi-annual fuel sampling for natural gas, daily fuel sampling of process gas; daily for blends of fuels, or other frequencies as allowed by 40 CFR Part 98 Subpart C §98.34(b)(3);
    e. The hourly ethylene processing rate; and
    f. Records of decoking cycle times in hours and frequency.

2. Permittee shall implement the TCEQ 28LAER leak detection and repair (LDAR) program and keep records of the monitoring results, as well as the repair and maintenance records.
3. Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the facilities authorized by this permit, including, but not limited to, the following: all records or reports pertaining to significant maintenance performed on any system or device that is a part of a facility authorized by this permit; all records relating to performance tests and monitoring of combustion equipment; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
4. Permittee shall maintain records for 5 years that include the following: the occurrence and duration of any startup, shutdown, or malfunction, initial startup period for the emission units, performance testing, calibrations, checks, duration of any periods during which a monitoring device is inoperative, and corresponding emission measurements.
5. Permittee shall maintain records of all GHG emission units and CO_2 emission certification tests and monitoring and compliance information required by this permit.
6. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:

    a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
    b. Applicable time and date of each period during which the monitoring equipment

was inoperative (monitoring down-time);

c. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
d. Any failure to conduct any required source testing, monitoring, or other compliance activities.

7. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit.
8. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
9. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. Initial Performance Testing Requirements:

A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the stacks of the Ethylene Cracking Furnace (EPN N-16), the Cogeneration Trains (EPNS N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) for pollutants covered as required by the TCEQ issued PSD permit. Sampling and analysis for CO_2 shall be conducted during this testing, in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b, for CO_2.

B. The Permittee shall also conduct an evaluation of the thermal efficiency of the Ethylene Cracking Furnace (N-16), the Cogeneration Trains (N-20A and N-20B), and the Boilers B-7280 and B-7290 (N-24A and N-24B) to verify compliance with minimum thermal efficiency requirements at III.B.1.i, III.B.2.h, and III.B.3.g. when performing testing as stated in V.A. above.

C. The results of the thermal efficiency evaluation shall be submitted to the EPA within 30 days of testing.

VI. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multi Media Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT

A Permit Is Hereby Issued To
BASF TOTAL Petrochemicals LLC
Authorizing the Construction and Operation of
Include Two Diesel Engines For Two Separate Cogeneration Units
Located at **Port Arthur, Jefferson County, Texas**
Latitude 29° 54′ 14″ Longitude 94° 3′ 18″
Permits: 36644, PSDTX903M5, and N007M1

Amendment Date : July 23, 2013

Renewal Date: February 10, 2020

For the Commission

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

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; 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.

SPECIAL CONDITIONS

Permit Numbers 36644, PSDTX903M5, and N007M1

1. This permit authorizes emissions only from those points listed in the attached table, entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in the special conditions. **(PSD, N, 7/12)**

2. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions. **(11/02)**

3. Subject to the maximum allowable emission rates and emission caps identified in the MAERT, this permit authorizes the following:

   A. Emissions of VOC, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), and hydrogen sulfide (H_2S) from the Flare System (Emission Point Nos. [EPN] N-15, and N-15A) resulting from the following: **(1/07, PSD, N) (2/09)**

      (1) Flare pilot gas.

      (2) Assist gas.

      (3) Vent streams from the sources described in Section 5.1, "Low to Moderate Volume, Regularly Occurring Vent Flows to the Flare," of the amendment application dated August 31, 2004, and any other such sources existing as of that date.

      (4) Vent streams from the sources described in Section 5.2, "Intermittent, High Volume Vent Flows to the Flare," of the amendment application dated August 31, 2004, and any other such sources existing as of that date.

      (5) Planned and scheduled major plant turnaround activities. Emissions from these activities are included in the total allowable emission rates and emission caps for EPNs N-15, N-15A, and N-15 TEMP for years 2006 and 2007, and have separate limits for years 2009 and beyond. N-15 TEMP was shutdown and removed as required in 2007. For years 2009 and beyond, these planned turnarounds are expected at nominal intervals of once every five years. **(5/11)**

For years 2009 and beyond, emissions from a planned major plant turnaround activity which begins less than 30 months after the previous one began will be counted against the allowable emission rates and emission caps identified in the MAERT for EPNs N-15 and N-15A as being exclusive of planned turnarounds. An exception to this may be made if a scheduled plant turnaround is advanced to coincide with an unscheduled outage. In that case, upon approval by the Director of the Air Permits Division, emissions from the advanced turnaround may be counted against the allowable emission rates and emission caps identified in the MAERT for EPNs N-15 and N-15A for planned turnarounds.

B. Maintenance, startup, and shutdown (MSS) activities associated with decoking of the catalysts in the DP Reactors R-6101A and B and resultant carbon monoxide (CO) emissions from EPN N-11. **(11/03)**

Federal Applicability

4. 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: **(8/00)**

   A. General Provisions, Subpart A.

   B. Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) in Title 40 Code of Federal Regulations (40 CFR) Part 60, Subpart VV.

   C. The VOC Emissions from SOCMI Distillation Operations in 40 CFR Part 60, Subpart NNN.

   D. Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) in 40 CFR Part 60, Subpart Kb.

   E. The VOC Emissions from SOCMI Reactor Processes, in 40 CFR Part 60, Subpart RRR.

   F. Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subpart Db.

   G. Stationary Gas Turbines in 40 CFR Part 60, Subpart GG.

5. These facilities shall comply with all applicable requirements of the EPA regulations in 40 CFR Part 60, Subparts A and YYY on Standards of Performance

for New Stationary Sources upon promulgation for the Standards of Performance for VOC Emissions from SOCMI Wastewater.

6. These facilities shall comply with all applicable requirements of the EPA regulations in 40 CFR Parts 61 and 63 on National Emission Standards for Hazardous Air Pollutants (NESHAPS) promulgated for: **(2/10)**

   A. Benzene Waste Operations in 40 CFR Part 61, Subparts A and FF.

   B. Equipment Leaks (Fugitive Emission Sources) of Benzene in 40 CFR Part 61, Subparts A and J.

   C. Equipment Leaks (Fugitive Emission Sources) in 40 CFR Part 61, Subparts A and V.

   D. Synthetic Organic Manufacturing Industry in 40 CFR Part 63, Subparts A and F.

   E. Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater in 40 CFR Part 63, Subparts A and G.

   F. Equipment Leaks in 40 CFR Part 63, Subparts A and H.

7. 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.

Production Limits

8. Production rates for the equipment covered by this permit shall not exceed the values listed in the Confidential File, Table 2, dated January 2012, and the maximum ethylene production rate shall not exceed 2.87 billion pounds a year (based on a 12-month rolling average). Monthly records of the annual ethylene production rates 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, 7/12)**

Leak Detection and Repair Monitoring Programs

9. Piping, Valves, Connectors, Pumps, Agitators, and Compressors in VOC Service-Intensive Directed Maintenance - 28LAER **(PSD, N, 11/11)**

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

A. The requirements of paragraphs F and G shall not apply (1) where the 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 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.

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.

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

(1) a cap, blind flange, plug, or second valve must be installed on the line or valve; or

(2) the open-ended valve or line shall be monitored once for leaks above background for a plant or unit turnaround lasting up to 45 days with an approved gas analyzer and the results recorded. For all other situations, the open-ended valve or line shall be monitored once by the end of the 72 hours period following the creation of the open ended line and monthly thereafter with an approved gas analyzer and the results recorded. For turnarounds and all other situations, leaks are indicated by readings of 500 ppmv and must be repaired within 72 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer 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 is being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, than 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 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 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.

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

Vt = 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.

Vp = 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.

10. Connectors in VOC Service - 28CNTQ **(PSD, N, 11/11)**

In addition to the weekly physical inspection required by Item E of Special Condition No. 9, all accessible connectors in gas\vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Items F thru J of Special Condition No. 9.

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

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

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

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

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

Where:

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

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

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

Cp = the percentage of leaking connectors for the monitoring period. **(N)**

11. Storage and Loading of VOC

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 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 API Code 650, or an equivalent degree of flotation, except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

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 five years and be made available to representatives of the TCEQ upon request.

H. If throughput records are specified in the special conditions of this permit, the holder of this permit may keep such records in lieu of the records required in Paragraph G.

I. 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.”

J. 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 30 TAC §§ 101.201 or 101.211 and shall be cleaned up immediately to minimize air emissions. **(N)**

12. The fittings associated with all floating roof storage tanks shall follow the representations made in the permit application. **(N, 12/00)**

Flare System

13. Emissions from the following Vessels shall be routed to the Flare System: D-8001, D-7702, D-7703, D-7705, D-8002, D-8003, D-8601, D-8602, D-8603, and D-8604. The following Vessels shall be routed to either the Flare System or Thermal Oxidizer (TO): X-8002, X-8003, and D-8007. **(PSD, N, 1/07, 2/09)**

14. The Flare System shall be designed and operated in accordance with the following requirements: **(2/09)**

    A. The gas combusted at the flare tips of the Shielded Flare (EPN N-15A) shall have a maximum exit velocity of 60 ft/sec and a minimum net heating value of 300 Btu per standard cubic foot (Btu/scf) at all times. Assist gas may be added to the flare tips as necessary to maintain the minimum net heating value of the gas to the flare. **(PSD, N, 7/13)**

    B. The Ground Flare (EPN N-15) shall be used only as a backup to the Shielded Flare during periods when the flow and/or pressure of the combusted gas exceed the design capacity of the Shielded Flare and during malfunction or maintenance of the Shielded Flare.

    The gas combusted at the flare tips in the Ground Flare shall have a minimum net heating value of 635 Btu/scf (determined as the higher heating value) when the waste gas has a hydrogen content of 8 volume percent or more, and 825 Btu/scf when the waste gas has a hydrogen content of less than 8 volume percent.

    Assist gas may be added to the flare tips as necessary to maintain the minimum net heating value of the gas to the flare. **(PSD, N)**

    C. Each flare shall be operated with a flame present at all times and have a constant pilot flame. The flame shall be monitored by thermocouple or an equivalent IR scanner. Any interruption in pilot gas flow will require immediate corrective action. Those components of the automatic re-ignition system which require periodic replacement shall be replaced as needed, but in

no case shall they remain in service longer than recommended by the manufacturer. In addition, cameras shall maintain a 24-hour surveillance of each flare for smokeless operation. **(2/10)**

D. Each flare shall be operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours. **(PSD, N, 4/99)**

E. Documentation of which flare is being used will be based on the position of the valves leading to each flare. The valve positions will be recorded continuously and will be retained for five years. **(1/07)**

F. The instruments used for flow measurement to the flare system will be designed and operated such that measurement of flow to the flare system shall be accurate as follows:

(1) to within 5 percent at flow rates equivalent to 30 percent, 60 percent, and 90 percent of monitor full scale for each of the flow monitor's two scale settings (presently zero to 40,000 pounds per hour and zero to 1 million pounds per hour), and

(2) to within 5 percent at a flow rate equal to the average of the lower 50 percent of hourly average flow rates for the previous rolling 12-month period. The flow monitor or velocity monitor shall be performance tested/calibrated within 60 days of start of operation of the Elevated Flare (EPN N-15A), and then annually according to manufacturer's specifications. The manufacturer's calibration specifications, methodology, and all testing and/or calibration information and reports must be maintained on site for a period of at least 5 years. **(1/07)**

15. The holder of this permit shall install a continuous flow monitor and analyzer(s) (gas chromatograph or equivalent) that provide a record of the flow rate, composition, Btu content, and hydrogen content of the waste gas stream sent to the Flare System. **(PSD, N, 1/07)**

A. The flow monitor and analyzer(s) shall generate quality-assured (or valid) data when the Flare System is operating. The flow monitor shall be calibrated at least once per year. The analyzer(s) used to determine composition, Btu content and hydrogen content shall be calibrated at least once per month. Loss of valid data due to periods of instrument breakdown, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the Flare System operated over the previous rolling 12-

month period. This applies separately to both the flow monitor and the analyzer. 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 monitor and analyzer, may be required by the TCEQ Regional Manager.

B. The flow monitor sensor and analyzer sample points should be installed in the vent stream as near as possible to the Flare System inlet such that the total vent stream to the Flare System is measured and analyzed. Two or more valid samples in a row below the minimum Btu specifications indicate non compliance with the Btu content requirements. The average hourly values of the flow and composition shall be recorded. Downtime of the flow monitor and analyzer(s) shall also be recorded, including the reason for such downtime. Records of the hourly averages and the downtime of the flow monitor and analyzer(s) shall be maintained for five years and be made available to representatives of the TCEQ upon request. **(2/09)**

Cogeneration Units

16. Cogeneration Train Unit 1 (GTG/HRSG Unit 1), EPN N-20A, shall be comprised of a General Electric Frame 6B Turbine and a 310.4 MMBtu/hr, based on the higher heating value (HHV) of fuel, duct burner, and selective catalytic reduction (SCR). Cogeneration Train Unit 2 (GTG/HRSG Unit 2), EPN N-20B, shall be comprised of a General Electric Frame 6B Turbine, a 310.4 MMBtu/hr duct burner and SCR. Concentrations shall be represented in parts per million by volume on a dry basis (ppmvd) when corrected to 15 percent oxygen (O_2), without correction to International Standards Organization conditions, at any load except during periods of start-up or shutdown. **(7/02)**

    A. Combined emissions, on a hourly average, from the gas turbine plus duct burner shall not exceed 6 ppmvd NO_x or 50 ppmvd CO for GTG/HRSG Units 1 and 2 when corrected to 15 percent O_2. **(11/11)**

    B. The concentration of ammonia (NH_3) in the exhaust gases of GTG/HRSG Unit 1 and Unit 2 shall not exceed 7 ppmvd when corrected to 15 percent O_2. **(PSD, N, 4/99, 7/02)**

    C. The GTG/HRSG Unit 1 and GTG/HRSG Unit 2 may exceed the permitted NO_x concentration limit above and the hourly pound per hour (lb/hr) NO_x emission limit in the MAERT during SCR start-up for up to two hours. **(7/02)**

D. Opacity of emissions from the cogeneration trains must not exceed 5 percent averaged over a six-minute period, except for those period described in 30 TAC § 111.111(a)(1)(E).

Unloading and Storage of NH_3

17. A. Unloading emissions shall be vapor balanced back to the NH_3 storage tank. Ammonia tank emissions shall be routed to an NH_3 Scrubber (EPN N-23).

B. The permit holder shall monitor the temperature and flow rate of the water to the Scrubber (EPN N-23) once per shift when unloading NH_3. 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 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. **(11/03)**

18. The permit holder shall maintain a quantity of no more than 1,700 gallons of anhydrous NH_3 on-site per cogeneration train at any time. Additionally, the permit holder shall maintain prevention and protection measures for the NH_3 storage system as represented in the integrated contingency plan, a copy of which is maintained on-site, which includes (but is not limited to) the following:

A. The NH_3 storage tank area will be marked and secured so as to protect the NH_3 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_3.

C. In the event of a release of the NH_3 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_3, the permit holder shall follow the mitigation procedures set out in the integrated contingency plan 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_3 service shall be followed:

(1) Audio, olfactory, and visual checks for NH_3 leaks within the operating area shall be made once per shift. **(2/09)**

(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/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. **(11/03)**

TO and Backup Carbon Adsorption System (CAS)

19. The TO shall be designed to operate with a 99.99 percent destruction efficiency. The firebox temperature shall be continuously monitored and recorded, and shall not be less than 1800 ^{o}F. **(PSD, N, 3/99)**

A. The permit holder is authorized to operate the TO at a temperature less than 1800 ^{o}F during stack test conducted at the maximum production rate to demonstrate the minimum 99.99 percent destruction efficiency specified by this condition. **(5/13)**

B. The permit holder shall submit an alteration request to the TCEQ Executive Director to change the temperature specified in this condition to a reduced temperature following successful demonstration of the required destruction efficiency at such temperature. **(5/13)**

20. A CAS with 99.99 percent removal efficiency for VOC (benzene) shall serve as backup for the TO during the times of TO outages. The CAS shall consist of two trains; each train shall consist of two 20,000 pound (lb) activated carbon canisters in series.

A. The CAS train in service shall be sampled to determine breakthrough of VOC every eight hours when in use. The sampling point shall be at the outlet of the first canister, but before the inlet to the secondary canister in the series. Sampling shall be done during operating conditions reflecting maximum emission venting to the CAS. **(2/10)**

B. The method of VOC sampling and analysis shall be done by Photo-Ionization Detector (PID), Flame Ionization Detector (FID), or a TCEQ approved equivalent. On each day that sampling is required; the instrument shall be calibrated prior to sampling with a certified gas mixture at less than 1 part per million (ppm) ±10 percent and 37 ppmv ±10 percent. **(2/10)**

C. Breakthrough shall be defined as a measured VOC (benzene) concentration of 37 ppmv. When the condition of breakthrough for VOC is detected during sampling, the waste gas flow shall be switched to the second CAS train within 24 hours. Replacement of the saturated canister shall be initiated at once. A fresh carbon canister will be used in the second position and the partially used canister will be shifted or valved to the first position for that train's next use.

D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:

(1) Sample time and date.

(2) Monitoring results (ppmv).

(3) Corrective action taken including the time and date of that action.

(4) Process operations occurring at the time of sampling.

These records shall be made available to representatives of the TCEQ and local programs upon request and shall be retained for at least five years following the date that the data is obtained. **(2/09)**

Cracking Furnaces, Boilers and Heaters

21. Cracking furnaces, boilers, and heaters associated with the Ethylene Cracker Project shall not exceed the firing rates (HHV) and burner technology as listed below: **(PSD, N, 7/12)**

EPN (FIN)	Capacity (MMBtu)	Contaminant	Heat Specific Factor (lb/MMBtu)	
N-1 (H-0100)	302.0	NO_x	0.06 (annual) 0.08 (hourly) 0.16 (hourly*)	
		CO	0.077 (annual) 0.077 (hourly) 0.15 (hourly*)	
N-2 (H-0200) N-3 (H-0300) N-4 (H-0400) N-5 (H-0500) N-6 (H-0600) N-7 (H-0700) N-8 (H-0800)	441.7 (Each)	NO_x	0.06 (annual) 0.08 (hourly) 0.16 (hourly*)	
		CO	0.077 (annual) 0.077 (hourly) 0.15 (hourly*)	
N-9 (H-0900)	487.5	NO_x	0.01 (annual) 0.025 (hourly) 0.10 (hourly*)	
		CO	0.035(annual) 0.035 (hourly) 0.14(hourly*)	
N-16 (H-1000)	498	NO_x	0.01 (annual) 0.025 (hourly) 0.10 (hourly*)	
		CO	0.035(annual) 0.035 (hourly) 0.14(hourly*)	
N-12 (H-6101)	62.58	NO_x	0.05 (annual) 0.08 (hourly)	
		CO	0.07 (annual) **(7/13)**	
N-14 (B-7240)	227.5	NO_x CO	0.06 (annual) 0.069 (annual) **(7/13)**	
N-24A (B-7280) N-24B (B-7290)	425.4 hourly, 380 annual (Each)	NO_x CO	0.01 0.035	At over 25% load

* Hourly startups and spikes are authorized up to 876 hours per 12 months for each unit.

A. The fuel flow and heating value (Btu/scf, upper heating value basis) of the fuel firing each cracking furnace, boiler, and heater shall be continuously monitored and recorded. A rolling 12-month annual average and the one-

hour maximum firing rates shall be updated daily to demonstrate compliance with the firing rates shown. Records of the annual average and one-hour maximum firing rates 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, 4/99)**

B. The Cracking Furnaces (EPNs N-1 through N-9, and N-16) may operate in hot standby mode for up to 1,400 hours per year each. The DP Reactor Feed Heater H-6101 (EPN N-12), Supplemental Boiler (N-14), and Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) may operate in hot standby mode without any hours per year limitation. Hot standby is defined as 20 percent or less of the maximum firing rate listed above for EPNs N-1 through N-8, N-24A, and N-24B; 30% or less of the maximum firing rate for N-9, N-14, and N-16; and 40% or less for N-12. During hot standby operation (and during authorized startup operations for DP Reactor Feed Heater H-6101), the heat-based emission limits (lb/MMBtu) for NO_x and CO as stated above do not apply to these emission points. However, the lb/hr and ton per year (TPY) emission rate limits stated on the MAERT may 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. **(PSD, N, 7/12)**

C. Total operating hours devoted to decoking the cracking furnaces shall not exceed 4,416 (92 decoking operations) per rolling 12-month period. The holder of this permit shall maintain monthly records of the operating hours devoted to decoking. These records shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request. **(1/07)**

D. The above heat specific factor requirements for NO_x (lb NO_x/MMBtu) are not applicable when the cracking furnace is in its decoking cycle; however, the NO_x mass emission rates specified in the MAERT shall not be exceeded when the cracking furnace is in its decoking cycle. **(PSD)**

E. Except during SCR start-up periods, the concentration of NH_3 in the exhaust gases of Boilers B-7280 and B-7290 (EPNs N-24A andN-24B), and Cracking Furnaces H-0900 and H-1000 (EPNs N-9 and N-16) shall not exceed 10 ppmvd when corrected to 15 percent O_2. **(PSD, N, 7/12)**

22. Fuel for Boilers B 7280 and B 7290 (EPNs N-24A and N-24B) shall include: **(PSD, 11/11)**

(1) Natural Gas

(2) High Pressure Fuel Gas (HPFG)

(3) Low Pressure Fuel Gas (LPFG)

(4) Refinery Fuel Gas (RFG) from the adjacent TOTAL Refinery

(5) FCCU Supply from the adjacent TOTAL Refinery

(6) FCCU Return from the adjacent TOTAL Refinery

(7) Mix Stream from the adjacent TOTAL Refinery

(8) A combination of two or more of the above fuels

Representative properties of HPFG are listed in the e-mail from JD Consulting, L.P., dated December 15, 2005. Representative properties of LPFG and the TOTAL Refinery fuel gases are listed in the SB 1126 notification dated February 5, 2009.

To demonstrate compliance with annual SO_2 emissions limits for Boilers B7280 and B7290, a record of the rolling 12-month average of SO_2 emissions will be maintained. When Refinery Fuel Gas or FCCU Supply is burned in the boilers, a sulfur concentration obtained monthly from the TOTAL Refinery will be utilized to calculate this average. **(4/09)**

23. Opacity of emissions from the cracking furnaces, boilers, heaters, and decoke drum must not exceed 5 percent averaged over a six-minute period, except for those periods described in 30 TAC § 111.111(a)(1)(E). **(4/99)**

24. All process wastewater from the ethylene cracking unit shall be handled in an enclosed treatment system. Process wastewater shall be completely segregated from the storm water gathering system. Process wastewater shall be steam stripped, with the stripper overheads routed back into the process. Vapors from all process wastewater collection drain tanks shall be routed to the flare. Vapors from the benzene extraction unit, spent caustic oxidizer vent, and the CPI/IGF vent shall be routed to the TO. **(N, 3/99)**

Cooling Tower System

25. The holder of this permit shall perform sampling and other testing as necessary to demonstrate ongoing compliance with the emission limits for the Cooling Tower System (EPNs F2 and F-2A). The VOC associated with cooling tower water shall be monitored monthly with an approved air stripping system or equivalent. The sample obtained from the air stripping system shall be collected in a Tedlar® bag or summa canister and analyzed by gas chromatography. The minimum detection level of the testing system shall be equivalent to no more than 5 TPY of VOC

emissions, which for this facility is approximately 0.4 ppmv (air-stripped concentration, as ethylene) or approximately 0.015 ppmw (as ethylene) concentration in water. The appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained for a period of five years. The records shall be made available to the TCEQ Executive Director upon request. **(11/11)**

If a leak equivalent to more than 5 TPY of VOC emissions above baseline is detected, the owner or operator shall comply with the requirements in paragraph A of this condition except as provided in paragraphs B through E of this condition.

Documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical. For the purposes of this permit condition, delay of repair means exceeding the time frame established in paragraph A of this condition. Prior to exceeding the time frame established in Paragraph A of this condition, all documentation of a decision to delay repair shall be submitted to the TCEQ Beaumont Regional Office for approval.

A. The leak shall be repaired as soon as practical but not later than 45 calendar days after the owner or operator receives results of monitoring tests indicating a leak. The leak shall be repaired unless the owner or operator demonstrates that the results are due to a condition other than a leak.

B. Delay of repair of heat exchange systems for which leaks have been detected is allowed if the equipment is isolated from the process.

C. Delay of repair is also allowed if repair is technically infeasible without a shutdown and a shutdown is expected within the next two months.

D. Delay of repair is also allowed for up to 120 calendar days if necessary parts or personnel were not available.

E. Delay of repair is also allowed if repair is technically infeasible without a shutdown and the shutdown would cause greater emissions than the potential emissions from delaying repair. The owner or operator may delay repair until the next shutdown of the process equipment associated with the leaking heat exchanger. The owner or operator shall document the basis for the determination that a shutdown for repair would cause greater emissions than the emissions likely to result from delaying repair. If the delay will exceed two years, and the projected emissions due to this leak will exceed the rates as listed on the MAERT for this source, then the owner or operator shall amend or alter the MAERT to reflect the increase in VOC emissions and following the

repair, the owner or operator shall determine a new baseline of VOC emissions and amend or alter the MAERT to reflect the decrease in VOC emissions. **(N, 2/09)**

26. The holder of this permit shall conduct weekly liquid samples (analyzed by gas chromatography) on each of the four Cooling Water Returns (A, B, C, and D returns) for benzene at 0.013 ppmw (or 13.0 parts per billion [ppb]) detection limit. If the analyzed cooling water has a benzene concentration greater than 0.013 ppmw (or 13.0 ppb), the analyzer shall be used to help determine the area of the plant site from which the leak into the cooling water system has occurred. A sampled benzene concentration of greater than 0.013 ppmw on two consecutive weekly samples shall be considered a leak. If a benzene leak is detected, the owner or operator shall comply with the requirements contained in paragraph A of the previous condition, except as provided in Paragraphs B through E of the previous condition.

    If the repair of a leaking component is to be delayed, documentation of a decision to delay repair shall state the reasons repair was delayed and shall specify a schedule for completing the repair as soon as practical. For the purposes of this permit condition, delay of repair means exceeding the time frame established in Paragraph A of the previous condition. Prior to exceeding the time frame established in Paragraph A of the previous condition, all documentation of a decision to delay repair shall be submitted to the TCEQ Beaumont Regional Office for approval. **(2/10)**

27. Heat exchangers involved in the cooling water cycle shall be of welded construction and inspected during planned shutdowns in accordance with American Petroleum Institute Procedure, API-581. **(2/10)**

Initial Determination of Compliance

28. Sampling ports and platform(s) shall be incorporated into the stack design of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 ((EPNs N-24A andN-24B) 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. **(PSD, N, 7/12)**

29. 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 stacks of Ethylene Cracking Furnaces (EPNs

N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNS N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B). The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate U.S. Environmental Protection Agency (EPA) Reference Methods 201A and 202 or Reference Method 5, modified to include back-half condensibles, for the concentration of particulate matter less than 10 microns in diameter (PM_{10}); Reference Method 8 or Reference Methods 6 or 6c for sulfur dioxide (SO_2); Reference Method 9 for opacity (consisting of 30 six-minute readings as provided in 40 CFR § 60.11[b]); Reference Method 10 for the concentration of CO; Reference Method 25A, modified to exclude methane and ethane, for the concentration of VOC (to measure total carbon as propane); and Reference Method 20 for the concentrations of NO_x and O_2 or equivalent methods. **(PSD, N, 7/12)**

Fuel sampling using the methods and procedures of 40 CFR § 60.335(d) for the cogeneration trains may be conducted in lieu of stack sampling for SO_2. If fuel sampling is used, compliance with NSPS, Subpart GG, SO_2 limits shall be based on 100 percent conversion of the sulfur in the fuel to SO_2.

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

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

(1) Proposed date for pretest meeting.

(2) Date sampling will occur.

(3) Name of firm conducting sampling.

(4) Type of sampling equipment to be used.

(5) Method or procedure to be used in sampling.

(6) Description of any proposed deviation from the sampling procedures specified in this permit or TCEQ/EPA sampling procedures.

(7) Procedure/parameters to be used to determine worst case emissions such as turbine loads during 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. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Air contaminants emitted from the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) to be tested for include (but are not limited to) NO_x, CO, SO_2, and PM_{10}. Air contaminants emitted from the TO (N-19) and the Cogeneration Trains (EPNs N-20A and N-20B) to be tested for include (but is not limited to) NO_x, CO, SO_2, and VOC.

C. Sampling shall occur within 60 days after achieving the maximum operating rate, but not later than 180 days after initial startup of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the 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 Office.

D. The Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Heaters (EPNs N-12 and N-13), the Supplemental Boiler (EPN N-14), the TO (EPN N-19), the Cogeneration Trains (EPNs N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) shall operate at maximum production rates during stack emission testing. Each gas turbine shall be tested at a minimum of four points in the normal operating range including the minimum point in the range and at full load for the atmospheric conditions which exist during testing. The duct burner shall be tested at its maximum firing rate while the turbine is operating at base-load. These conditions/parameters and any other primary operating parameters that affect the emission rate shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

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

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

One copy to the TCEQ Regional Office.
One copy to the EPA Region 6 Office, Dallas.

Continuous Determination of Compliance

30. The holder of this permit shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentrations of the following compounds from each of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14), the Cogeneration Trains (EPNs N-20A and N-20B), the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and the Thermal Oxidizer(EPN N-19): **(PSD, N, 7/12)**

EPN (FIN)	Compounds
N-1 through N-9, and N-16 (H-0100 through H-0900, and H-1000)	NO_x, SO_2, CO, O_2
N-14 (B-7240)	NO_x, SO_2, CO, O_2
N-20A, N-20B	NO_x, SO_2, CO, O_2
N-24A (B-7280), N-24B (B-7290)	NO_x, CO, O_2
N-19 (TO)	CO, O_2

A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Air, Air Permits Division in Austin for requirements to be met.

B. Section 1 below applies to sources subject to the quality-assurance requirements of 40 CFR Part 60, Appendix F; section 2 applies to all other sources:

(1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.

(2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

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

All CGA exceedances of $\pm$ 15 percent accuracy indicate that the CEMS is out of control.

C. The monitoring data shall be reduced to hourly average concentrations at least once every day, using a minimum of four equally-spaced data paints 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 every day 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 emission rates lb/MMBtu shall be Method 19. Conversion from lb/MMBtu to lb/hr shall be based on each furnaces 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. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.

E. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.

F. Quality-assured (or valid) data must be generated when the monitor 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 Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14), the Cogeneration Trains (EPNs N-20A and N-20B), the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B), and the Thermal Oxidizer (EPN N-19) 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.

31. The holder of this permit shall additionally install, calibrate, maintain, and operate continuous monitoring systems to monitor and record the average hourly fuel consumption in each cogeneration train. **(PSD, N, 4/99)**

NH_3 Slip

32. The NH_3 concentration in the GTG/HRSG Units 1 and 2 (EPNs N-20A and N-20B), the Cracking Furnaces H-0900 and H-1000(EPNs N-9 and N-16), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) exhaust stacks shall be tested or calculated according to the method and frequency listed below: **(PSD, N, 7/12)**

A. The holder of this permit may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3. The NH_3 concentrations shall be corrected and reported in accordance with paragraph B of the Cogeneration Units condition. Should a CEMS be installed for monitoring NH_3 slip, quality assurance of the NH_3 CEMS shall be accomplished by Phenol Nitroprusside Method, the Indophenol Method, or an equivalent method on a quarterly basis. Results shall be recorded and calculations made to correlate test results to allowable emission rates.

B. As an approved alternative, the NH_3 slip may be measured using a sorbent or stain tube device specific for NH_3 measurement. The frequency of sorbent/stain tube testing shall be daily for the first 60 days of operation, after which, the frequency may be reduced to weekly testing if operating

procedures have been developed to prevent excess amounts of NH_3 from being introduced in the SCR unit and when operation of the SCR unit has been proven successful with regard to controlling NH_3 slip. Daily sorbent or stain tube testing shall resume when the catalyst is within 30 days of its useful life expectancy. These results shall be recorded and used to determine compliance with paragraph B of the Cogeneration Units condition.

For this alternative, if the measured or calculated NH_3 slip concentration exceeds 5 ppm for a consecutive one-hour period, the permit holder shall begin NH_3 testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or the EPA Conditional Test Method (CTM) 27 on a quarterly basis, in addition to the weekly sorbent of stain tube testing. The quarterly testing shall continue until such time as the SCR unit catalyst is replaced; or if the quarterly testing indicates NH_3 slip is 3 ppm or less, the Phenol-Nitroprusside/Indophenol/CTM 27 tests may be suspended until sorbent or stain tube testing again indicate 5 ppm NH_3 slip or greater. These results shall be recorded and used to determine compliance with paragraph B of the cogeneration unit's condition.

C. As an approved alternative to sorbent tube testing, the permit holder may install and operate a second NO_x CEMS probe located between combustion sources and the SCR, which may be used in association with the SCR efficiency and NH_3 injection rate to estimate NH_3 slip. This condition shall not be construed to set a minimum NO_x reduction efficiency on the SCR unit.

D. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ Regional Office.

33. The holder of this permit shall either measure or develop a program to calculate the total mass flow rate through the HRSG stacks to ensure continuous compliance with the emission limitations specified in the attached MAERT.

A. The exhaust emissions from GTG/HRSG Unit 1 and GTG/HRSG Unit 2 shall be calculated on an hourly basis in lb/hr using the measured or calculated flow rate as provided for by the EPA Reference Method 19 and natural gas flow rates and the concentrations of NO_x and CO from the CEMS required in the Continuous Demonstration of Compliance condition.

B. The hourly calculated values will be cumulatively added during each hour of the month and stored in the computer hard drive and on individually stored discs or other TCEQ-accepted computer media. Records of this information will also be available in a form suitable for inspection. **(PSD, N, 4/99)**

34. In place of using a continuous SO_2 CEM in the Cracking Furnaces (EPNs N-1 through N-9, and N-16), the Supplemental Boiler (EPN N-14) stacks, and the Cogeneration Units 1 and 2 (EPNs N-20A and N-20B) stacks, the holder of this permit may show compliance with the SO_2 allowable by sampling for total sulfur in the fuel gas system. Fuel gas sampling shall be conducted at a frequency of no less than one sample per hour. Sampling results shall be used in conjunction with the appropriate fuel flow for each individual unit to determine the SO_2 emission rate from each furnace, each cogeneration unit, and the boiler. This emission rate shall be converted to units of the permit allowable emission rate in lbs/hr at least once everyday, and cumulative TPY on a 12-month rolling average at least once every month. At least 23 hourly samples shall be conducted every day. Records of the total sulfur sampling results shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request. **(PSD, 12/11)**

In addition, prior to implementing the total sulfur sampling technique, the holder of this permit shall submit a monitoring plan to the Director of the TCEQ Compliance Support Division for review and approval. The plan shall identify the specific sampling method used (for example, ASTM 1072, 40 CFR Part 60, Method 15, etc.), methods of verifying the data, QA and QC procedures, QA and QC frequency, certification of the monitoring method and results, and other parameters as determined necessary by the Director of the TCEQ Compliance Support Division. **(PSD, 2/06)**

Recordkeeping and Reporting Requirements

35. 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, the 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 the Initial Determination of Compliance conditions 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, 4/99)**

36. 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, the EPA, or any air pollution control agency with jurisdiction upon request. **(PSD, N, 7/12)**

A. The average hourly NO_x and CO emissions in lb/MMBtu of heat input for each of the Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16). Also, data and calculations to demonstrate the annual NO_x and CO emissions in lb/MMBtu of heat input meet the limits set forth in the conditions for the Cracking Furnaces, the Boilers and the Heaters (EPNs N-1 through N-9, N-16, N-14, N-24A, and N-24B) on a 12-month rolling basis.

B. The NO_x, CO, and diluent gases, O_2, or carbon dioxide, 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 turbines and HRSG duct burners.

E. Records of fuel sampling conducted pursuant to the Initial Determination of Compliance conditions.

F. Records of NH_3 emissions sampling and calculations pursuant to theNH_3 slip condition.

G. Written records of any accidental releases, spills, or venting of NH_3 and the corrective action taken.

H. Hours per month that the SCR was in startup.

I. Records of calculations to demonstrate that the individual hourly limits, the individual annual emission limits for EPN N-14, and the annual emission cap for EPNs N-14, N-20A, and N-20B as described in the November 29, 2010 amendment application, confidential section, and shown in the MAERT have been met. These calculations shall be made for NO_x and CO using CEMS data along with either the aforementioned (Continuous Demonstration of Compliance conditions) measurements or program developed to calculate the

total mass flow rate through the HRSG stacks. If CEMS data is not available for the other pollutants then the following order shall be used, based on the availability of data: stack testing data, vendor guarantees, or AP-42 emission factors.

37. Sufficient records shall be kept to demonstrate compliance with the individual hourly and annual maximum allowable emission rate limits and annual emission caps identified in the MAERT for the Flare System (EPNs N-15 and N-15A). Emission calculations shall be performed at least once every calendar quarter beginning in 2006 to demonstrate compliance with all emission rate limits and emission caps identified in the MAERT for the Flare System (EPNs N-15 and N-15A). Beginning in 2012, these calculations and compliance demonstrations shall be performed monthly. Required records, dates, and calculated emissions associated with planned turnaround activities shall be kept and maintained separately beginning with calendar year 2006. All the aforementioned records and calculations shall be kept and maintained at the plant site for a period of five years and made available to a representative of the TCEQ, the EPA, or any air pollution control agency with jurisdiction upon request. **(7/09)**

38. 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 the Continuous Demonstration of Compliance condition. 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. Non-complying NO_x, CO, and SO_2 emissions are any period of continuous operation except during startup or shutdown. 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_x, CO, or SO_2 as measured and recorded by each CEMS, exceed the emission limits set forth in the cracking furnaces, boilers and heaters conditions or the MAERT. If a total sulfur sampling program is implemented for the fuel gas system, each one-hour period of operation, except during start-up or shutdown, during which the emissions of SO_2 exceed the emission limits specified in the MAERT.

    B. Annual emissions shall be defined as a rolling 12-month period during which the 12-month cumulative emissions of NO_x, CO, or SO_2 as measured and recorded by each CEMS, exceed the emission limits set forth in the Cracking Furnaces, Boilers and Heaters conditions or the MAERT. If a total sulfur sampling program is implemented for the fuel gas system, each rolling 12-month period of operation during which the emissions of SO_2 exceed the emission limits specified in the MAERT.

C. If the average NO_x, CO, or NH_3 stack outlet concentration for the cogeneration trains exceeds permitted concentrations identified in the cogeneration units condition for more than one hour, the holder of this permit shall investigate and determine the reason for the exceedance and, if needed, 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. If the NO_x, CO, or NH_3 concentrations exceed the concentrations required by the Cogeneration Units condition for more than 24 hours, the permit holder shall notify the TCEQ Regional Office either verbally or with a written report detailing the cause of the increase in emissions and all efforts being made to correct the problem. **(PSD, N, 3/02)**

39. When the holder of this permit anticipates conducting a major plant turnaround during a given calendar year, the permit holder shall provide the Regional Office written notice of the anticipated major plant turnaround no later than December 15 of the preceding calendar year. The notice shall include the anticipated start and completion dates for the turnaround.

    Upon request by the TCEQ Regional Office, the permit holder shall provide updates or revisions to these plans. **(2/06, PSD, N)**

40. All records and data reporting required to demonstrate compliance with these conditions and the MAERT shall be rounded to the decimal places indicated. Simple truncation at the indicated decimal place shall not be performed. **(1/07)**

Federal Considerations

41. The changes authorized by the as built amendment application received on July 25, 2001, are dependent on the holder of this permit obtaining the required offsets for VOC and NO_x. Emission reductions provided as VOC and NO_x shall total 0.9 TPY VOC and 9.4 TPY NO_x (based on an offset ratio for the Beaumont/Port Arthur nonattainment area of 1.15:1). **(N, 11/02)**

42. This permit authorizes the emissions listed on the MAERT for the Flare System (EPNs N-15, N-15A, and N-15 TEMP), based upon the amendment application dated August 31, 2004, and subsequent revisions (originally authorized for EPN N-15 only, now authorized for EPNs N-15, N-15A, and N-15 TEMP) and amendment application dated February 10, 2011, as follows:

A. With the exception of emissions from planned turnarounds for the year 2009 and beyond, emissions are authorized contingent upon the permanent retirement, no later than 30 days after the approval date of the amendment, of TCEQ Emission Reduction Credit Certificate (ERCC) Nos. 1097, 1555, 1557, and 1558 for 186.2 TPY of VOC offsets. (This requirement has been met)

B. Emissions from planned turnarounds for the year 2009 and beyond are authorized contingent upon the permanent retirement of ERCC Nos. 2317, 2422 and 2423 for 43.2 TPY of VOC emissions. (This requirement has been met)

These ERCCs provide 229.4 tpy offsets for the 196.34 TPY of VOC emission increase (225.9 TPY offsets for the 196.34 TPY of VOC emissions at the offset ratio of 1.15 to 1.0, plus 4.5 tpy surplus offset). **(1/07, N) (5/11)**

Additional Requirements - Flare System

43. Emissions of VOC from the Flare System (EPNs N-15 and N-15A) shall not exceed 100 tons per calendar day. **(2/09)**

Mercury in Naphtha Feed **(3/07)**

44. Subsequent to startup of the plant in 2007 following the addition of silver-coated molecular sieves to the charge gas dryer beds for removal of mercury, the following shall be required:

A. For purposes of this permit, amounts of mercury shall be calculated and expressed as elemental mercury in any form or phase, and shall include the mercury contained in any compound. The cumulative amount of mercury contained in the naphtha fed to the plant between regeneration cycles of the charge gas dryer beds shall not exceed 0.63 pound. This shall be based upon the mercury content of all naphtha feed streams to the plant and shall be calculated daily, and shall be used to demonstrate compliance with the mercury allowable emission rate of 0.63 pound/hour. **(8/07)**

B. The amount of mercury contained in the naphtha fed to the plant shall be totaled monthly and kept on a rolling 12-month basis. This amount shall not exceed the rolling 12-month mercury allowable emission rate of 0.039 TPY. **(8/07)**

C. Sufficient records to demonstrate compliance with paragraphs A and B above, along with all documentation of mercury content of upstream naphtha marine

and pipeline receipts, shall be maintained on-site for a period of five years and made available to representatives of the TCEQ upon request.

Ethylene Cracking Furnaces - Startup and Spike

45. The Ethylene Cracking Furnaces (EPNs N-1 through N-9, and N-16) are authorized to have higher hourly emissions of NOx and CO during startups and spikes in normal operations as specified in footnotes (10) and (11) of the maximum allowable emission rates table (MAERT). Records of each event including the hours for each cracking furnace shall be maintained to demonstrate compliance with the MAERT and this special condition. **(PSD, N, 7/12)**

Planned Maintenance Startup and Shutdown

46. This permit authorizes the emissions from the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment C) attached to this permit. **(7/12)**

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;

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.

47. Process units and facilities, with the exception of those identified in Special Conditions 51, 52, 55, and Attachment A shall be depressurized, emptied, degassed, and placed in service in accordance with the following requirements. **(11/12)**

A. The process equipment shall be depressurized to a control device or a controlled recovery system prior to venting to atmosphere, degassing, or draining liquid. Equipment that only contains material that is liquid with VOC partial pressure less than 0.50 psi at the normal process temperature and 95°F may be opened to atmosphere and drained in accordance with paragraph C of this special condition. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded.

B. If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knockout drum or equivalent to allow for managed initial phase separation. If the VOC partial pressure is greater than 0.50 psi at either the normal process temperature or 95°F, any vents in the system must be routed to a control device or a controlled recovery system. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. Control must remain in place until degassing has been completed or the system is no longer vented to atmosphere.

C. All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence degassing and/or maintenance. Liquids must be drained into a closed vessel or closed liquid recovery system unless prevented by the physical configuration of the equipment. If it is necessary to drain liquid into an open pan or sump, the liquid must be covered or transferred to a covered vessel within one hour of being drained.

D If the VOC partial pressure is greater than 0.50 psi at the normal process temperature or 95°F, facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the control device or controlled recovery system to the extent allowed by process

equipment or storage vessel design. The vapor pressure at 95°F may be used if the actual temperature of the liquid is verified to be less than 95°F and the temperature is recorded. The facilities to be degassed shall not be vented directly to atmosphere, except as necessary to establish isolation of the work area or to monitor VOC 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 48. The sampling point shall be upstream of the inlet to the control device or controlled recovery system. The sample ports and the collection system must be designed and operated such that there is no air leakage into the sample probe or the collection system downstream of the process equipment or vessel being purged. If there is not a connection (such as a sample, vent, or drain valve) available from which a representative sample may be obtained, a sample may be taken upon entry into the system after degassing has been completed. The sample shall be taken from inside the vessel so as to minimize any air or dilution from the entry point. The facilities shall be degassed to a control device or controlled recovery system until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. Documented site procedures used to de-inventory equipment to a control device for safety purposes (i.e., hot work or vessel entry procedures) that achieve at least the same level of purging may be used in lieu of the above.

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

(1) It is not technically practicable to depressurize or degas, as applicable, into the process.

(2) There is not an available connection to a plant control system (flare).

(3) There is no more than 50 lb of air contaminant to be vented to atmosphere during shutdown or startup, as applicable.

All instances of venting directly to atmosphere per Special Condition 47.E must be documented when occurring as part of any MSS activity. The emissions associated with venting without control must be included in the work order or equivalent for those planned MSS activities identified in Attachment B.

48. Air contaminant concentration shall be measured using an instrument/detector meeting one set of requirements specified below. **(7/12)**

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

VOC Concentration = Concentration as read from the instrument*RF
In no case should a calibration gas be used such that the RF of the VOC (or mixture of VOCs) to be monitored is greater than 5.0.

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

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) Prior to use the detector shall be calibrated on a monthly basis with a certified pentane gas standard at 25% of the lower explosive limit (LEL) for pentane. Records of the calibration date/time and calibration result (pass/fail) shall be maintained.

(2) 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.

49. 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; **(7/12)**

    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.

50. Each open-ended valve or line resulting from a plant or unit turnaround shall be exempt from the requirements of Special Condition 49 and the following shall requirements apply. **(11/12)**

    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.

    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.

51. This permit authorizes emissions from EPN TK-2501 during planned floating roof landings. Tank roofs may only be landed for changes of tank service or tank

inspection/maintenance as identified in the permit application. Emissions from change of service tank landings, for which the tank is not cleaned and degassed, shall not exceed 10 tons of VOC in any rolling 12 month period. Tank roof landings include all operations when the tank floating roof is on its supporting legs. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The following requirements apply to tank roof landings. **(11/12)**

A. The tank liquid level shall be continuously lowered after the tank floating roof initially lands on its supporting legs until the tank has been drained to the maximum extent practicable without entering the tank. Liquid level may be maintained steady for a period of up to two hours if necessary to allow for valve lineups and pump changes necessary to drain the tank. This requirement does not apply where the vapor under a floating roof is routed to control or a controlled recovery system during this process.

B. If the VOC partial pressure of the liquid previously stored in the tank is greater than 0.50 psi at 95°F, tank refilling or degassing of the vapor space under the landed floating roof must begin within 24 hours after the tank has been drained unless the vapor under the floating roof is routed to control or a controlled recovery system during this period. The tank shall not be opened except as necessary to set up for degassing and cleaning, Floating roof tanks with liquid capacities less than 100,000 gallons may be degassed without control if the VOC partial pressure of the standing liquid in the tank has been reduced to less than 0.02 psia prior to ventilating the tank. Controlled degassing of the vapor space under landed roofs shall be completed as follows:

(1) Any gas or vapor removed from the vapor space under the floating roof must be routed to a control device or a controlled recovery system and controlled degassing must be maintained until the VOC concentration is less than 10,000 ppmv or 10 percent of the LEL. The locations and identifiers of vents other than permanent roof fittings and seals, control device or controlled recovery system, and controlled exhaust stream shall be recorded. There shall be no other gas/vapor flow out of the vapor space under the floating roof when degassing to the control device or controlled recovery system.

(2) The vapor space under the floating roof shall be vented using good engineering practice to ensure air contaminants are flushed out of the tank through the control device or controlled recovery system to the extent allowed by the storage tank design.

(3) A volume of purge gas equivalent to twice the volume of the vapor space under the floating roof must have passed through the control device or into a controlled recovery system, before the vent stream may be sampled

to verify acceptable VOC concentration. The measurement of purge gas volume shall not include any make-up air introduced into the control device or recovery system. The VOC sampling and analysis shall be performed as specified in Special Condition 48.

(4) 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.

(5) Degassing must be performed every 24 hours unless there is no standing liquid in the tank or the VOC partial pressure of the remaining liquid in the tank is less than 0.15 psia.

C. The tank shall not be opened or ventilated without control, except as allowed by (1) below until one of the criteria in part D of this condition is satisfied.

(1) Minimize air circulation in the tank vapor space.

a. One manway may be opened to allow access to the tank to remove or de-volatilize the remaining liquid. Other manways or access points may be opened as necessary to remove or de-volatilize the remaining liquid. Wind barriers shall be installed at all open manways and access points to minimize air flow through the tank.

b. Access points shall be closed when not in use

D. The tank may be opened without restriction and ventilated without control, after all standing liquid has been removed from the tank or the liquid remaining in the tank has a VOC partial pressure less than 0.02 psia. These criteria shall be demonstrated in any one of the following ways.

(1) Low VOC partial pressure liquid that is soluble with the liquid previously stored may be added to the tank to lower the VOC partial pressure of the liquid mixture remaining in the tank to less than 0.02 psia. This liquid shall be added during tank degassing if practicable. The estimated volume of liquid remaining in the drained tank and the volume and type of liquid added shall be recorded. The liquid VOC partial pressure may be estimated based on this information and engineering calculations.

(2) If water is added or sprayed into the tank to remove standing VOC, one of the following must be demonstrated:

a. Take a representative sample of the liquid remaining in the tank and verify no visible sheen using the static sheen test from 40 CFR 435 Subpart A Appendix 1.

b. Take a representative sample of the liquid remaining in the tank and verify hexane soluble VOC concentration is less than 1000 ppmw using EPA method 1664 (may also use 8260B or 5030 with 8015 from SW-846).

c. Stop ventilation and close the tank for at least 24 hours. When the tank manway is opened after this period, verify VOC concentration is less than 1000 ppmv through the procedure in Special Condition 48.

(3) No standing liquid verified through visual inspection.

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

E. Tanks shall be refilled as rapidly as practicable until the roof is off its legs with the following exceptions:

(1) Only one tank with a landed floating roof can be filled at any time at a rate not to exceed 34,808 gal/hr.

(2) The vapor space below the tank roof is directed to a control device when the tank is refilled until the roof is floating on the liquid. The control device used and the method and locations used to connect the control device shall be recorded. All vents from the tank being filled must exit through the control device.

F. The occurrence of each roof landing and the associated emissions shall be recorded and the rolling 12-month tank roof landing emissions shall be updated on a monthly basis. These records shall include at least the following information:

(1) the identification of the tank and emission point number, and any control devices or recovery systems used to reduce emissions;

(2) the reason for the tank roof landing;

(3) for the purpose of estimating emissions, the date, time, and other information specified for each of the following events:

a. the roof was initially landed,

b. all liquid was pumped from the tank to the extent practical,

c. start and completion of controlled degassing, and total volumetric flow,

d. all standing liquid was removed from the tank or any transfers of low VOC partial pressure liquid to or from the tank including volumes and vapor pressures to reduce tank liquid VOC partial pressure to <0.02 psi,

e. if there is liquid in the tank, VOC partial pressure of liquid, start and completion of uncontrolled degassing, and total volumetric flow,

f. refilling commenced, liquid filling the tank, and the volume necessary to float the roof; and

g. tank roof off supporting legs, floating on liquid;

(4) the estimated quantity of each air contaminant, or mixture of air contaminants, emitted between events c and g with the data and methods used to determine it. The emissions associated with roof landing activities shall be calculated using the methods described in Section 7.1.3.2 of AP-42 "Compilation of Air Pollution Emission Factors, Chapter 7 - Storage of Organic Liquids" dated November 2006 and the permit application.

52. Prior to performing maintenance on the fixed roof tank that stores sulfuric acid, the tank shall be drained and any residual acid in the tank shall be neutralized with non-VOC caustic solution and water. **(7/12)**

53. The following requirements apply to vacuum and air mover truck operations to support planned MSS at this site: **(7/12)**

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 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 49.A or B.

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 53.(B)(3)(a) through 53.(B)(3)(d) do not apply.

f. A maximum of one uncontrolled vacuum truck or 10 controlled vacuum trucks may be filled simultaneously as long as the total emissions do not exceed 0.58 lbs/hr of VOC.

54. 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 58. Emissions from temporary facilities are authorized provided the temporary facility: **(11/12)**

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.

55. The following requirements apply to frac, or temporary, tanks and vessels used in support of MSS activities. **(7/12)**

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.

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.

56. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity. **(7/12)**

57. All permanent facilities at this site must comply with all operating requirements, limits, and representations in the special conditions identified in this permit and in other NSR permits during planned startup and shutdown unless alternate requirements and limits are identified in this permit. Alternate requirements are identified below: **(7/12)**

    A. Combustion units, with the exception of flares, at this site are exempt from NH_3, NO_X, and CO operating requirements in the special conditions during planned startup and shutdown if the following criteria are satisfied:

        (1) The maximum allowable emission rates in the permit authorizing the facility are not exceeded.

        (2) The startup period does not exceed 8 hours in duration and the firing rate does not exceed 75 percent of the design firing rate. The time it takes to complete the shutdown does not exceed 4 hours. Unit N-12 is allowed to take up to 24 hours for startup.

        (3) Control devices are started and operating properly when venting a waste gas stream.

    B. A record shall be maintained indicating that the start and end times of each of the activities identified above occur and documentation that the requirements for each have been satisfied.

58. 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. **(11/12)**

    Controlled recovery systems identified in this permit shall be directed to an operating 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 downstream 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 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 a detector meeting the requirements of Special Condition 48.A or 48.B.

(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 percent 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.

B. The flare system shall meet the requirements in Special Condition 14.

C. A liquid scrubbing system may be used upstream of carbon adsorption. A single carbon can or a liquid scrubbing system may be used as the sole control device if the requirements below are satisfied.

(1) The exhaust to atmosphere shall be monitored continuously and the VOC concentration recorded at least once every 15 minutes when waste gas is directed to the scrubber.

(2) The method of VOC sampling and analysis shall be by detector meeting the requirements of Special Condition 48.A.

(3) An alarm shall be installed such that an operator is alerted when outlet VOC concentration exceeds 100 ppmv above background. The MSS activity shall be stopped as soon as possible when the VOC concentration exceeds 100 ppmv above background for more than one minute. The date and time of all alarms and the actions taken shall be recorded.

59. The following requirements apply to capture systems for the plant flare system. **(7/12)**

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.

or

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

(1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or

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

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

E. 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.

60. 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 of Special Condition 46.A through 46.D. 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 46 rather than documenting all the information required by Special Condition 46 parts A through D. **(11/12)**

61. 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 46 through 62 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. **(11/12)**

62. The following limitations are prescribed to reinforce the assumptions made in the MSS emission calculations and Air Quality Analysis submitted in April 2011. These limitations are to be followed in addition to the general MSS conditions in this permit. **(11/12)**

A. Emissions from equipment clearing shall not occur until emissions are controlled down to 1,000 ppmv.

B. Equipment venting of styrene shall not exceed 0.0653 lb/hr.

C. Equipment venting of benzene shall not exceed 0.0108 lb/hr

D. Equipment venting of 1, 3-butadiene shall not exceed 0.0075 lb/hr

E. Records demonstrating compliance with the lb/hr limitations for equipment venting in Special Condition 62.B through 62.D shall be kept on-site for at least two years. These records shall include the date, vent duration, chemical composition, molecular weight, equipment ID and parts per million by volume of the chemical vented to the atmosphere.

63. The Cogen Starting Engines Unit#20A and #20B (EPNs GTENG-1 and GTENG-2) shall each operate a maximum of 96 hours per year. They are utilized during the MSS activities of the gas-fired turbine generators in the Cogeneration Units 20A and 20B. Emissions from each engine shall not exceed 10.53 grams per horsepower-hour (gm/hp-hr) of nitrogen oxide (NOx) and 3.31 gm/hp-hr of carbon monoxide (CO). Records of the operating hours shall be maintained. **(7/13)**

Date: July 23, 2013

Permit 36644
Attachment A
INHERENTLY LOW EMITTING ACTIVITIES

Activity	Emissions				
	VOC	NOx	CO	PM	H_2S/SO_2
Maintenance Chemicals / Lubricants	X			X	
Replace analyzer filters	X				
Calibrate analyzers	X				
Analyzer purging	X				
Sample purging	X				
Sample media changing	X				
Instrumentation maintenance	X				
Carbon canister replacement	X				
Drain equipment to controlled sewer	X				

Date: July 20, 2012

Permit 36644
Attachment B
ROUTINE MAINTENANCE ACTIVITIES

These activities are tracked by work orders or an equivalent tracking systems. Volumes purged are typically <50 cubic feet.

Pump repair/replacement
Fugitive component (valve, pipe, flange) repair/replacement
Compressor repair/replacement
Heat exchanger repair/replacement
Vessel repair/replacement
Catalyst loading
Filter changes
Pipeline pigging

Date: July 20, 2012

Permit 36644
Attachment C
MSS ACTIVITY SUMMARY

Facilities	**Description**	**Emissions Activity**	**EPN**
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 adsorption system	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
Floating Roof Tanks	Tank roof landing	Operation with landed roof	MSS CAP
Floating Roof Tanks	Degas of tank with landed roof	Controlled degassing	MSS CAP
Attachment A Activities			MSS Cap
Attachment B Activities			MSS/TA Cap

Date: July 20, 2012

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 36644, PSDTX903M5, and N007M1

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

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-1	Recycle Ethane Cracking Furnace H-0100	NO_x (7) (10)	48.32	-
		NO_x (7)	24.16	79.37
		SO_2 (7)	2.21	4.83
		CO (7) (11)	46.50	-
		CO (7)	23.25	101.85
		PM_{10} (7)	1.51	6.61
		VOC (7)	0.57	2.51
N-2	Fresh Feed Cracking Furnace H-0200	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-3	Fresh Feed Cracking Furnace H-0300	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-4	Fresh Feed Cracking Furnace H-0400	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-5	Fresh Feed Cracking Furnace H-0500	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-6	Fresh Feed Cracking Furnace H-0600	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-7	Fresh Feed Cracking Furnace H-0700	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-8	Fresh Feed Cracking Furnace H-0800	NO_x (7) (10)	70.68	-
		NO_x (7)	35.34	116.08
		SO_2 (7)	3.22	7.07
		CO (7) (11)	68.02	-
		CO (7)	34.01	148.97
		PM_{10} (7)	2.21	9.67
		VOC (7)	0.84	3.68
N-9	Fresh Feed Cracking Furnace H-0900 (487.5 MMBtu/hr maximum)	NO_x (7) (10)	48.75	-
		NO_x (7)	12.19	21.35
		SO_2 (7)	5.60	24.53
		CO (7) (11)	34.13	-
		CO (7)	17.06	74.73
		PM_{10} (7)	3.63	15.91
		VOC (7)	2.63	11.51
		NH_3	1.98	8.68

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-16	Fresh Feed Cracking Furnace H-1000 (487.5 MMBtu/hr maximum)	NO_x (7) (10)	49.80	-
		NO_x (7)	12.45	21.81
		SO_2 (7)	4.48	8.72
		CO (7) (11)	69.72	-
		CO (7)	17.43	76.34
		PM (7)	2.49	10.91
		PM_{10} (7)	2.49	(15)
		$PM_{2.5}$ (7)	2.49	(15)
		VOC (7)	2.69	11.76
		NH_3	1.98	8.68
N-10	Catalyst Regeneration Effluent	VOC (7)	15.83	0.08
		CO	373.33	1.89
N-11	Reactor Regeneration Effluent (Startup, Shutdown, and Maintenance)	CO	161.43	135.57
		VOC (7)	0.13	0.11
N-12	DP Reactor Feed Heater	NO_x (7)	5.01	13.71
		SO_2 (7)	0.44	0.95
		CO (7)	4.40	12.26
		PM_{10} (7)	0.38	1.64
		VOC (7)	0.17	0.74
	DP Reactor Feed Heater Startup Emission Rate	CO (7)	14.50	1.74

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-13	DP Reactor Regeneration Heater	NO_x (7)	1.73	1.42
		SO_2 (7)	0.14	0.10
		CO (7)	2.37	3.13
		PM_{10} (7)	0.13	0.17
		VOC (7)	0.06	0.08
N-14	Auxiliary Boiler	NO_x	13.60	
		SO_2	1.24	
		CO	15.60	
		PM_{10}	1.58	
		VOC	1.58	
N-20A	GTG HRSG Unit 1 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_x	17.65	
		SO_2	4.53	
		CO	89.51	
		PM_{10}	5.55	
		$PM_{2.5}$	5.55	
		VOC	4.09	
		NH_3	7.61	28.20
N-20B	GTG HRSG Unit 2 GE Frame 6B, 310.4 MMBtu/hr Duct Burner (with SCR)	NO_x	17.65	
		SO_2	4.53	
		CO	89.51	
		PM_{10}	5.55	
		$PM_{2.5}$	5.55	
		VOC	4.09	
		NH_3	7.61	28.20

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
Emission Point Nos. N-14, N-20A, and N-20B are subject to the following combined annual emission caps for the specified pollutants:				
N-14, N-20A, and N-20B	Annual Emission Caps	NO_x	-	102.96
		SO_2	-	8.27
		CO	-	349.85
		PM_{10}	-	46.78
		$PM_{2.5}$	-	(15)
		VOC	-	32.17
N-15 and N-15A	Flare System - Calendar Year 2008 (No Planned Turnarounds in 2008) (8)(9)	NO_x (7)	2219.70	243.30
		SO_2 (7)	165.80	3.80
		CO (7)	15794.40	559.20
		VOC (7)	24418.10	486.60
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	860.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2009 and 2010 (8)(9)	NO_x (7)	2219.70	169.80
		SO_2 (7)	165.80	2.70
		CO (7)	15794.40	390.10
		VOC (7)	24418.10	339.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	600.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2011 (8)(9)	NO_x (7)	2219.70	101.80
		SO_2 (7)	165.80	2.22
		CO (7)	15794.40	325.13

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		VOC (7)	24418.10	203.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	408.00
N-15 and N-15A	Flare System (Exclusive of Planned Turnarounds) - Year 2012 (8)(9)	NO_x (7)	2219.70	101.80
		SO_2 (7)	165.80	1.60
		CO (7)	15794.40	233.90
		VOC (7)	24418.10	203.50
		H_2S	1.80	0.10
	Annual Cap	VOC, NO_x, and CO	-	359.70
N-15 and N-15A	Flare System (Emissions from Planned Turnarounds) - Year 2012 and beyond (8)(9)	NO_x (7)		84.90
		SO_2 (7)		1.30
		CO (7)		195.10
		VOC (7)		172.70
		H_2S		0.10
	Annual Cap	VOC, NO_x, and CO	-	300.00
N-18	Decoking Drum	CO (7)	3360.00	204.09
		PM_{10} (7)	78.73	3.98
		$PM_{2.5}$ (7)	78.73	(15)
N-19	Thermal Oxidizer	NO_x (7)	0.24	0.88
		SO_2 (7)	0.08	0.28
		CO (7)	0.21	0.77
		PM_{10} (7)	0.04	0.13
		VOC (7)	0.03	0.14

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-21A	Fire Pump Diesel Engine (6)	NO_x (7)	15.81	1.23
		SO_2 (7)	1.05	0.08
		CO (7)	3.41	0.27
		PM_{10} (7)	1.12	0.09
		VOC (7)	1.26	0.10
N-21B	Fire Pump Diesel Engine (6)	NO_x (7)	15.81	1.23
		SO_2 (7)	1.05	0.08
		CO (7)	3.41	0.27
		PM_{10} (7)	1.12	0.09
		VOC (7)	1.26	0.10
N-22	Carbon Bed Adsorber	Benzene	0.31	0.11
N-23	Ammonia Scrubber	NH_3	0.12	0.51
N-24A	Boiler B-7280 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66
		NO_x (Routine)	4.25	16.64
		NO_x (Startup)	17.02	1.23
		CO (7)	14.89	18.31
		SO_2	7.91	16.67
		PM_{10} (7)	2.13	8.32
		$PM_{2.5}$ (7)	2.13	(15)
		NH_3	1.87	7.33

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-24B	Boiler B-7290 (425.4 MMBtu/hr)	VOC (7)	1.70	6.66
		NO_x (Routine)	4.25	16.64
		NO_x (Startup)	17.02	1.23
		CO (7)	14.89	18.31
		SO_2	7.91	16.67
		PM_{10} (7)	2.13	8.32
		$PM_{2.5}$ (7)	2.13	(15)
		NH_3	1.87	7.33
N-24A and N-24B	Annual Cap - Boilers B-7280 and B-7290	SO_2	-	23.42
N-1 through N-9, N-14, N-15, N-15A, N-16, N-19, N-20A, and N-20B	Fresh Feed Cracking Furnaces, Auxiliary Boiler, Flare System, Cogeneration Facility, and Thermal Oxidizer (9)	Mercury (9)	0.63	0.039
TK-2501	IFR Spent Caustic	VOC (7)	0.32	0.35
TK-8001	IFR WW Equalization	VOC (7)	0.39	0.62
TK-8101	EFR Contaminated Stormwater	VOC (7)	0.49	0.49
TK-7702	Sulfuric Acid Tank	H_2SO_4	0.01	0.01
		SO_3	0.01	0.01
F-1	Fugitives (12)	VOC (7)	9.43	41.31
F-2 and F-2A	Cooling Tower System	PM_{10} (7)	2.13	2.76
		VOC (5) (7)	25.00	42.45
		Benzene	0.50	1.99

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
F-4	Benzene/Toluene Process Fugitives (12)	VOC (7)	0.67	2.94
		H_2S	0.01	0.02
F-5	C4 Huntsman Pipeline Fugitives (12)	VOC	0.01	0.03
BOIL-AMM	Fugitives: Boilers 7280 and 7290 - Ammonia Injection System (12)	NH_3	0.01	0.02
COG-AMM-1	Ammonia Fugitives: Storage Tank and Vaporizer (12)	NH_3	0.01	0.06
COG-AMM-2	Ammonia Fugitives: GTG/HRSG Unit 2 SCR - Ammonia Injection System (12)	NH_3	0.01	0.01
COG-AMM-3	Ammonia Fugitives: GTG/HRSG Unit 1 SCR - Ammonia Injection System (12)	NH_3	0.01	0.01
FURN-AMM	Ammonia Fugitives: Fresh Feed Cracking Furnaces H-0900 and H-1000- Ammonia Injection System (12)	NH_3	0.03	0.11
PLANNED TURNAROUND AND MSS CAPs				
TA CAP	Turnaround CAP (Non-Flare)	VOC	16.03	4.61
		PM	0.30	2.08
		PM_{10}	0.02	(15)
		$PM_{2.5}$	0.01	(15)
MSS Cap	MSS CAP (Non-Flare)	VOC	17.52	4.72
		PM	0.74	1.43
		PM_{10}	0.49	(15)
		$PM_{2.5}$	0.03	(15)
N-1	Recycle Ethane Cracking Furnace H-0100 Startup	NOx	48.32	(13)
		CO	93.02	(13)

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-2	Fresh Feed Cracking Furnace H-0200 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-3	Fresh Feed Cracking Furnace H-0300 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-4	Fresh Feed Cracking Furnace H-0400 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-5	Fresh Feed Cracking Furnace H-0500 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-6	Fresh Feed Cracking Furnace H-0600 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-7	Fresh Feed Cracking H-0700 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-8	Fresh Feed Cracking H-0800 Startup	NOx	70.68	(13)
		CO	136.04	(13)
N-9	Fresh Feed Cracking H-0900 Startup	NOx	48.75	(13)
		CO	34.13	(13)
N-16	Fresh Feed Cracking H-1900 Startup	NOx	49.80	(13)
		CO	69.72	(13)
N-12	DP Reactor Feed Heater Startup	NOx	15.02	(13)
		CO	14.52	(13)

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
N-13	DP Reactor Regeneration Heater	NOx	3.45	(13)
		CO	4.74	(13)
N-14	Auxiliary Boiler Startup	NOx	27.12	(13)
		CO	31.19	(13)
N-20A	GTG HRSG Unit 1 Startup	NOx	123.53	(13)
		CO	716.12	(13)
N-20B	GTG HRSG Unit 2 Startup	NOx	123.53	(13)
		CO	716.12	(13)
N-24A	Boiler B-7280 Startup	NOx	17.02	(13)
		CO	29.78	(13)
N-24B	Boiler B-7290 Startup	NOx	17.02	(13)
		CO	29.78	(13)
GTGENG-1	Cogen Starting Engine Unit #20A (14)	VOC	0.01	0.01
		NOx	16.48	0.79
		CO	5.17	0.25
		SO_2	0.01	0.01
		PM_{10}	0.71	0.03
		$PM_{2.5}$	0.71	(15)
GTGENG-2	Cogen Starting Engine Unit #20B (14)	VOC	0.01	0.01
		NOx	16.48	0.79
		CO	5.17	0.25
		SO_2	0.01	0.01
		PM_{10}	0.71	0.03
		$PM_{2.5}$	0.71	(15)

Emission Sources - Maximum Allowable Emission Rates

(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
CO - carbon monoxide
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
SO_3 - sulfur trioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
H_2S - hydrogen sulfide
H_2SO_4 - sulfuric acid
NH_3 - ammonia
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period. Beginning January 1, 2006, compliance with annual emission limits is based on a rolling 12-month period with the following exception: allowable emission rates and emission caps for the Ground Flare (EPN N-15) will be based upon calendar years for 2006 through 2011 and will be based on a rolling 12-month period beginning January 1, 2012.
(5) The VOC emission rates from the cooling tower are for total VOC, including benzene.
(6) Emissions from the fire pump diesel engines are based on 156 hours per year operation. Non-emergency fire pump operations shall only occur between the hours of 8:00 a.m. and 5:00 p.m. (one engine at any one time.
(7) These emissions are permitted under PSD or Nonattainment review in addition to State.
(8) Turnarounds are planned for 2006 and 2007 for inspection and maintenance, and for implementation of improvements required by the Texas Commission on Environmental Quality Agreed Order approved and signed March 23, 2005, (Docket Number 2003-1317-AIR-E). Thereafter, consistent with the plant's original design basis, planned turnarounds are expected at nominal intervals of once every five years for purposes such as catalyst replacement, equipment inspection, and equipment repair or replacement.
(9) These are emission caps for the stated EPNs. Mercury shall be calculated and expressed as elemental mercury in any form or phase and shall include the mercury contained in any compound.
(10) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 150 total hours in any 12-month period during which emissions from one or more furnaces (EPNs N-1 through N-8, N-9, and N-16) exceed the routine lbs/hr emission limit. Annual emissions are included in the rates of normal operations.
(11) Emissions from startups and spikes in the short-term rate are authorized at this rate for up to 876 total hours in any 12-month period. Annual emissions are included in the rates of normal operations.
(12) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
(13) Annual emission rates are included in each EPN's respective routine emission rates.
(14) Each engine is authorized to operate for up to 96 total hours in any 12-month period.
(15) Annual emission rates of PM_{10} and $PM_{2.5}$ are included in PM annual emissions. Annual emission rates of $PM_{2.5}$ are included in PM_{10} annual emissions

Date: July 23, 2013

PREVENTION OF SIGNIFICANT DETERIORATION PERMIT FOR GREENHOUSE GAS EMISSIONS ISSUED PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-903-GHG

PERMITTEE: BASF FINA Petrochemicals LP
State Hwy 366, Gate 99
Port Arthur, TX 77642

FACILITY NAME: BASF FINA Petrochemicals LP
NAFTA Region Olefins Complex

FACILITY LOCATION: State Hwy 366, Gate 99
Port Arthur, TX 77642

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. Seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a *Prevention of Significant Deterioration* (PSD) permit to BASF FINA Petrochemicals LP for Greenhouse Gas (GHG) emissions. The Permit applies to the addition of a new ethylene cracking furnace and modifications to existing supporting units at their facility located in Port Arthur, Texas.

BASF is authorized to construct ethylene furnace 10 and modify existing units as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) PSD permit No. PSD-TX-903M5. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve BASF of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

In accordance with 40 CFR §124.15(b)(3), this PSD Permit becomes effective immediately upon issuance of this final decision.

Carl E. Edlund, Director
Multimedia Planning and Permitting Division

08/24/12
Date

BASF FINA Petrochemicals LP (PSD-TX-903-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions

PROJECT DESCRIPTION

The proposed modification will add a 10th ethylene cracking furnace to the existing ethylene cracking train at the BASF FINA Petrochemicals LP (BFLP) Facility in Port Arthur, Texas. The 10th furnace will be capable of cracking multiple hydrocarbon feedstocks, but will be optimized to handle ethane gas. The energy required for cracking gaseous feedstocks is inherently less than that required for cracking liquids, such as naphtha, and thus the ethylene furnace will fire at a reduced rate while cracking gaseous feedstocks. The reduced rate will limit the amount of heat recovery and subsequent steam generation that would otherwise take place while the unit is cracking liquid feedstocks. The loss in heat recovery steam generation capacity under the gaseous operating mode will be supplemented by existing support facilities. For this reason, the permit also authorizes modifications to existing support facilities to provide steam needed to operate other plant equipment/processes while cracking gaseous feedstocks. The ethane feedstock will also increase the facility's production of hydrogen, a secondary product resulting from the ethylene cracking process. With this construction permit, BASF intends to increase the total production of ethylene at the BFLP facility to 2.87 billion pounds per year.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

Emission Unit Id. No.	EPN	Description
H-1000	N-16	Ethylene Cracking Furnace No. 10 (Combustion Unit). Unit has a maximum design heat input rate of 498 MMbtu/hr, is capable of combusting multiple fuels, and will be equipped with a Selective Catalytic Reduction (SCR) system.
B-7280 B-7290	N-24A N-24B	2 Steam Package Boilers (Combustion Units). Each unit has a maximum design heat input rate of 425.4 MMbtu/hr, and is equipped with Selective Catalytic Reduction (SCR) controls.
DB-1 DB-2	N-20A N-20B	2 Auxiliary Gas Turbine Duct Burners (Combustion Units). Each unit has a maximum design heat input rate of 310.4 MMbtu/hr, and is equipped with Selective Catalytic Reduction (SCR) controls.
D-1801	N-18	Decoking Drum (10th Furnace Operations Only)
P-FUG	F-1	Process Fugitives (10th Furnace Project Only)
HFC-FUG	F-5	HFC Containing Equipment, consisting of a new CEMS cabinet AC with a 22 ounce charge of R-422D, and 6 new 6-ton electrical equipment cooling units each with a 12 lb. charge of R-410A. (10th Furnace Project Only)

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR §52.21(r), this PSD Permit shall become invalid if construction:

1. is not commenced (as defined in 40 CFR §52.21(b)(9)) within 18 months after the approval takes effect; or
2. is discontinued for a period of 18 months or more; or
3. is not completed within a reasonable time.

Pursuant to 40 CFR §52.21(r), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 6 in writing or by electronic mail of the:

1. date construction is commenced, postmarked within 30 days of such date;
2. actual date of initial startup, as defined in 40 CFR §60.2, postmarked within 15 days of such date; and
3. date upon which initial performance tests will commence, in accordance with the provisions of Section V, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition V.B.

C. FACILITY OPERATION

At all times, including periods of startup, shutdown, and maintenance, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA, which may include, but is not limited to, monitoring results, review of operating maintenance procedures and inspection of the facility.

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail within 48 hours following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.

2. In addition, Permittee shall notify EPA in writing within 10 days of any such failure described under Section I.D.1. of this permit. Within 10 days of the restoration of normal operations, Permittee shall provide a written supplement to the notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure,

the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III of this permit, and the methods utilized to mitigate emissions and restore normal operations.

3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

EPA authorized representatives, upon the presentation of credentials, shall be permitted:

1. to enter the premises where the facility is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
2. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
3. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and,
4. to sample materials and emissions from the source(s).

F. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of the PSD Permit and its conditions by letter; a copy of the letter shall be forwarded to EPA Region 6 within thirty days of the letter signature.

G. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ PSD Permit PSD-TX-903M5 (when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

I. ACRONYMS AND ABBREVIATIONS

AC	Air Conditioner
BACT	Best Available Control Technology
BFLP	BASF Fina Petrochemicals LP
CAA	Clean Air Act
CC	Carbon Content
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH_4	Methane
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry Standard Cubic Foot
EF	Emission Factor
EPN	Emission Point Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
gr	Grains
GWP	Global Warming Potential
HHV	High Heating Value
hr	Hour
HRSG	Heat Recovery Steam Generating
LAER	Lowest Achievable Emission Rate
lb	Pound
LDAR	Leak Detection and Repair
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
N_2O	Nitrous Oxides
NSPS	New Source Performance Standards
OC	Oxidation Catalyst
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RATA	Relative Accuracy Test Audit
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
HFC	Hydro Fluorocarbon
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPY	Tons per Year
USC	United States Code
VOC	Volatile Organic Compound

II. Annual Emission Limits

Annual emissions, in tons per year (TPY) on a 365-day total, rolling daily, shall not exceed the following:

Table 1. Annual Emission Limits[1]

Unit ID	EPN	Description	GHG Mass Basis		TPY CO_2e[2,3]	BACT Requirements
				TPY[2]		
H-1000	N-16	Ethylene Cracking Furnace	CO_2	255,735	256,914	Flue Gas Exhaust Temperature ≤ 309 °F. See permit condition III.B.1.j.
			CH_4	14.2		
			N_2O	2.8		
B-7280 and B-7290	N-24A N-24B	2 Steam Package Boilers[4]	CO_2	420,095	421,399	Minimum Thermal Efficiency of 77%. See permit condition III.B.2.h.
			CH_4	22.0		
			N_2O	4.4		
GTG1-DB	N-20A	Gas Turbine Auxiliary Duct Burner	CO_2	117,786	118,329	Minimum Thermal Efficiency of 60%. See permit condition III.B.3.g.
			CH_4	6.5		
			N_2O	1.3		
GTG2-DB	N-20B	Gas Turbine Auxiliary Duct Burner	CO_2	117,786	118,329	Minimum Thermal Efficiency of 60%. See permit condition III.B.3.g.
			CH_4	6.5		
			N_2O	1.3		
D-1801	N-18	10th Furnace Decoking Drum Operations	CO_2	571	571	Proper furnace design and operation. See permit conditions III.B.1.f.
P-FUG	F-1	Fugitive Process Emissions	CH_4	Not Applicable	Not Applicable	Implementation of LDAR Program. See permit condition III.B.4.a.
Totals			**CO_2**	**911,451**	**CO_2e 915,542**	
			CH_4	**49**		
			N_2O	**10**		

1. Compliance with the annual emission limits (tons per year) is based on a 365-day total, rolled daily.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions only from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): $CH_4 = 21$, $N_2O = 310$
4. The steam package boilers have a combined annual refinery fuel gas (RFG) firing limit equivalent to one boiler firing RFG at capacity for 8,760 hrs per year.

III. SPECIAL PERMIT CONDITIONS

A. Fuel Use Conditions, Monitoring, and Recordkeeping

Table 2. Permitted Fuel Types and Average Parameters[1]

Fuel ID	Description	HHV (btu/scf)[2]	CO_2 EF (lb/MMbtu)[2]	Carbon Content (CC) (kg C / kg of fuel)[2]
1	Pipeline Quality Natural Gas (NG)	1020	115.93	0.7267
2	Low Pressure Fuel Gas (LPFG)	979	105.59	0.7262
3	High Pressure Fuel Gas (HPFG)	1023	119.09	0.7267
4	Refinery Fuel Gas (RFG)[3]	1180	133.20	0.7393
5	FCCU Supply Fuel Gas (FCCU SFG)[3]	1165	130.27	0.7131
6	FCCU Return Fuel Gas (FCCU RFG)[3]	900	115.12	0.5966
7	High Hydrogen Fuel (HHF)	373	24.89	0.2818

1. These average parameters are descriptive only, and are not enforceable parameters.
2. CC and HHV will be calculated according to equation C-2b as specified in 40 CFR Part 98 Subpart C §98.33(a)(2)(ii)(A).
3. Fuel supplied from adjacent TOTAL refinery.

Table 3. Combustion Unit Fuel Restrictions and Heat Input Limits

Unit ID	Unit Description	Allowable Fuels (ID)[1]	Annual Average Firing Rate (MMbtu/hr)[2]
N-16	Ethylene Cracking Furnace	1, 2, 3, 7	490.69[3]
N-24A N-24B	Steam Package Boilers	1, 2, 3, 4, 5, 6, 7	380[4]
N-20A N-20B	Gas Turbine Auxiliary Duct Burners	1, 2, 3, 7	226[5]

1. Fuel ID numbers are from Table 1.
2. Maximum firing rates based on the units design capacity. Rates shown are per unit.
3. Has a maximum hourly firing rate of 498 MMbtu/hr.
4. Has a maximum hourly firing rate of 425.4 MMBtu/hr.
5. Has a maximum hourly firing rate of 310.4 MMBtu/hr.

1. All fuel combustion units subject to the GHG limits contained in Table 1 shall be limited to combusting the individual or any combination of the specific fuels listed for each unit in Table 3.
2. Any of the hydrogen-rich product stream not slated to fulfill contract commitments shall be utilized to the maximum extent possible by the plant equipment as fuel to supplement operational Btu requirements.
3. All fuel combustion units identified in this permit shall have fuel metering for each individual fuel, either combusted alone or in combination with any other allowable fuels, and Permittee shall:

a. Measure and record the fuel flow rate using an operational non-resettable elapsed flow meter for fuel fired in ethylene cracking furnace (N-16) and standard flow meters for the steam package boilers (N-24A and N-24B) continuously.
b. Record the total fuel combusted for each type of authorized fuel monthly.
c. Conduct monthly fuel sampling and analysis for each fuel type combusted during the calendar month using an approved method identified at 40 CFR 98.244(b)(4). The analysis shall at a minimum allow for the determination of the fuels volumetric heat content, carbon content, and molecular composition. The profile shall be used to determine the fuel molecular weight.
d. The fuel gross calorific value [high heat value (HHV)], carbon content and, if applicable, molecular weight, shall be determined, at a minimum, semiannually by the procedures contained in 40 CFR Part 98.34(b)(3). Records of the fuel gross calorific value shall be maintained for a minimum period of five years. Upon request, Permittee shall provide a sample and/or analysis of the fuel that is fired in any unit covered by this permit at the time of the request, or shall allow a sample to be taken by EPA for analysis.
e. Pipeline Quality Natural Gas (Fuel ID 1) shall be exempt from this requirement (III.A.3.c.) provided Permittee receives and maintains monthly records of the vendor's analysis, and the data is of sufficient quality to yield further analysis as required above.
f. Permittee shall update monthly, and maintain a 12 month rolling total of the units firing rate to demonstrate compliance with the heat input limits established in Table 3. The annual (12-month total) heat input shall be calculated in accordance with equation 1.

Equation 1 - Heat Input (MMbtu) for units covered under Table 3:

$$\sum_{i=1}^{12}\sum_{j=1}^{k} FF_j * HHV_j * 10^{-6}$$

where:
- i = Start of 12 month rolling total period (current month, previous year)
- 12 = End of 12 month rolling total period (previous calendar month)
- j = Combusted fuel type (1 iteration for each fuel type combusted)
- k = Total number of fuels combusted during compliance month
- FF = Monthly fuel flow (scf) for fuel j
- HHV = High heating value (btu/scf) for fuel j

4. Combinations of unmetered individual fuel streams may also be fed to the combustion units identified in this permit provided each combined fuel stream is metered and analyzed as required for the individual fuel streams in condition III.A.3 of this permit.

B. Emission Unit Work Practice Standards, Operational Requirements, and Monitoring

1. Ethylene Cracking Furnace (N-16)

   a. Furnace 10 (N-16) is limited to an annual production rate of 420,000,000 pounds of ethylene. Compliance with this limit shall be demonstrated based on monthly production totals summed on a 12-month rolling basis.
   b. Compliance with the Annual Emission Limit shall be demonstrated on a rolling 12-month basis calculated in accordance with 40 CFR Part 98 Subpart C, equation C-5 for CO_2. CH_4 and N_2O emissions shall be calculated in accordance with 40 CFR Part 98 Subpart C §98.33(c) on a12-month rolling basis.
   c. Permittee shall maintain all production data, on a daily basis, to include: records of daily feedstock process rates (type of feedstock and the mass or volume of each feedstock processed) and daily ethylene production (mass basis).
   d. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
   e. Permittee shall perform preventative maintenance check of oxygen control analyzers and document quarterly.
   f. The furnace coils shall be decoked, using decoking drum (N-18), no more than 13 times on a 12 month rolling basis.
   g. One-hour maximum firing rates shall be recorded daily to demonstrate compliance with the maximum firing rate of 498 MMBtu/hr.
   h. The ethylene cracking furnace shall have an annual average firing rate, not to exceed, 490.69 MMBtu/hr.
   i. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.1.f.and III.B.1.g.
   j. Permittee shall continuously monitor and record the flue gas exhaust temperature hourly and limit the temperature to less than or equal to 309 °F on a 365-day rolling average basis.

2. Steam Package Boilers (N-24A and N-24B)

   a. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
   b. Permittee shall perform a preventative maintenance check of oxygen control analyzers and document quarterly.
   c. Permittee shall perform boiler burner tune-ups at a minimum of annually.
   d. The two steam package boilers are limited to firing refinery fuel gas (RFG) to no more than 8,760 hours per year for both combined.
   e. The maximum firing rate for the boilers shall not exceed 425.4 MMBtu/hr per unit.
   f. The boilers shall have an annual average firing rate, not to exceed, 380 MMBtu/hr per unit.
   g. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.2.e. and III.B.2.f.

h. The permittee shall maintain a minimum overall thermal efficiency of 77% on a 12-month rolling average basis, calculated monthly, for emission units N-24A and N-24B.
i. Thermal efficiency shall be calculated using the following equation:

$$Boiler\ Efficiency = \frac{(steam\ flow\ rate\ x\ steam\ enthalpy) - (feedwater\ flowrate\ x\ feedwater\ enthalpy)}{Fuel\ firing\ rate\ x\ Gross\ Calorific\ Value\ (GCV)} * 100$$

3. Gas Turbine Auxiliary Duct Burners (N-20A and N-20B)

a. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
b. Permittee shall perform annual tune-ups of duct burners to maintain optimal thermal efficiency.
c. Permittee shall continue operation of the existing condensate recovery, HRSG blowdown heat recovery, and economizers to maintain optimal thermal efficiency.
d. The maximum firing rate for the duct burners shall not exceed 310.4 MMBtu/hr per unit.
e. The duct burners shall have an annual average firing rate, not to exceed, 226 MMBtu/hr per unit.
f. A rolling 12 month average and the one-hour maximum firing rates shall be calculated daily to demonstrate compliance with the firing rates in III.B.3.d. and III.B.3.e.
g. The permittee shall maintain a minimum overall thermal efficiency of 60% on a 12-month rolling average basis, calculated monthly, for emission units N-20A and N-20B.
h. Efficiency will be demonstrated by the following equation:

$$Unit\ Efficiency = \frac{Heat\ Content\ of\ Steam\ Produced + Heat\ Content\ of\ Power\ Produced}{Heat\ Content\ of\ Fuel\ Supply} * 100$$

4. Process Fugitives (F-1)

a. The permittee shall implement the TCEQ 28LAER leak detection and repair (LDAR) program for fugitive emissions of methane.

5. HFC - Fugitive Emission Sources

a. All HFC equipment identified and associated with the 10th furnace project shall be serviced by qualified technicians meeting the requirements of section 608 under the CAA.
b. All service records shall be maintained in accordance with the requirements under section III in this PSD permit.
c. Release of HFCs will be considered a malfunction or emergency event. Releases due to a malfunction are not authorized by this permit.

C. Continuous Emissions Monitoring System (CEMS)

1. As an alternative to Special Condition III.B.1. i, III.B.2.h, or III.B.3.g, permittee may install a CO_2 CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO_2 emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1.
2. Permittee shall ensure that all required CO_2 monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
3. Permittee shall ensure compliance with the specifications and test procedures for CO_2 emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.
4. Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 60, Appendix F for the CO_2 emission monitoring system.

IV. Recordkeeping

A. Records

1. In order to demonstrate compliance with the GHG emission limits in Table 1, the permittee will monitor the following parameters and summarize the data on a calendar month basis.

    a. Operating hours for all air emission sources;
    b. Records of the fuel type, from Table 2, consumed by each source
    c. The fuel usage for all combustion sources, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate);
    d. Semi-annual fuel sampling for natural gas, daily fuel sampling of process gas; daily for blends of fuels, or other frequencies as allowed by 40 CFR Part 98 Subpart C §98.34(b)(3);
    e. The hourly ethylene processing rate; and
    f. Records of decoking cycle times in hours and frequency.

2. Permittee shall implement the TCEQ 28LAER leak detection and repair (LDAR) program and keep records of the monitoring results, as well as the repair and maintenance records.
3. Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the facilities authorized by this permit, including, but not limited to, the following: all records or reports pertaining to significant maintenance performed on any system or device that is a part of a facility authorized by this permit; all records relating to performance tests and monitoring of combustion equipment; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
4. Permittee shall maintain records for 5 years that include the following: the occurrence and duration of any startup, shutdown, or malfunction, initial startup period for the emission units, performance testing, calibrations, checks, duration of any periods during which a monitoring device is inoperative, and corresponding emission measurements.
5. Permittee shall maintain records of all GHG emission units and CO_2 emission certification tests and monitoring and compliance information required by this permit.
6. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:

    a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
    b. Applicable time and date of each period during which the monitoring equipment

was inoperative (monitoring down-time);

c. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
d. Any failure to conduct any required source testing, monitoring, or other compliance activities.

7. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit.
8. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
9. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reporting.

V. Initial Performance Testing Requirements:

A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the stacks of the Ethylene Cracking Furnace (EPN N-16), the Cogeneration Trains (EPNS N-20A and N-20B), and the Boilers B-7280 and B-7290 (EPNs N-24A and N-24B) for pollutants covered as required by the TCEQ issued PSD permit. Sampling and analysis for CO_2 shall be conducted during this testing, in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b, for CO_2.

B. The Permittee shall also conduct an evaluation of the thermal efficiency of the Ethylene Cracking Furnace (N-16), the Cogeneration Trains (N-20A and N-20B), and the Boilers B-7280 and B-7290 (N-24A and N-24B) to verify compliance with minimum thermal efficiency requirements at III.B.1.i, III.B.2.h, and III.B.3.g. when performing testing as stated in V.A. above.

C. The results of the thermal efficiency evaluation shall be submitted to the EPA within 30 days of testing.

VI. Agency Notifications

Permittee shall submit GHG permit applications, permit amendments, and other applicable permit information to:

Multi Media Planning and Permitting Division
EPA Region 6
1445 Ross Avenue (6 PD-R)
Dallas, TX 75202
Email: Group R6AirPermits@EPA.gov

Permittee shall submit a copy of all compliance and enforcement correspondence as required by this Approval to Construct to:

Compliance and Enforcement Division
EPA Region 6
1445 Ross Avenue (6EN)
Dallas, TX 75202