FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Air Liquide Large Industries U.S. LP

AUTHORIZING THE OPERATION OF
Freeport HyCO Plant
Industrial Gas Manufacturing

LOCATED AT
Brazoria County, Texas
Latitude 28° 58′ 52″ Longitude 95° 23′ 7″
Regulated Entity Number: RN100215334

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: O2391 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. For the purpose of generating emission reduction credits through 30 TAC Chapter 101, Subchapter H, Division 1 (Emission Credit Banking and Trading), the permit holder shall comply with the following requirements:

(i) Title 30 TAC § 101.302 (relating to General Provisions)

(ii) Title 30 TAC § 101.303 (relating to Emission Reduction Credit Generation Certification)

(iii) Title 30 TAC § 101.304 (relating to Mobile Emission Reduction Credit Generation and Certification)

(iv) Title 30 TAC § 101.309 (relating to Emission Credit Banking and Trading)

(v) The terms and conditions by which the emission limits are established to generate the reduction credit are applicable requirements of this permit

F. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:

(i) Title 30 TAC § 101.352 (relating to General Provisions)

(ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)

(iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)

(iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)

(v) Title 30 TAC § 101.359 (relating to Reporting)

(vi) Title 30 TAC § 101.360 (relating to Level of Activity Certification)

(vii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit

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) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.

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

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

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

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

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

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

4. The permit holder shall comply with the following 30 TAC Chapter 115, Subchapter F requirements (relating to Cutback Asphalt Requirements):

   A. Title 30 TAC § 115.512(3) (relating to Control Requirements)

5. The permit holder shall comply with the requirements of 30 TAC § 115.726(e)(1) for a site claiming exemption under 30 TAC § 115.727(a).

6. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 60, unless otherwise stated in the applicable subpart:

   A. Title 40 CFR § 60.7 (relating to Notification and Recordkeeping)

   B. Title 40 CFR § 60.8 (relating to Performance Tests)

   C. Title 40 CFR § 60.11 (relating to Compliance with Standards and Maintenance Requirements)

   D. Title 40 CFR § 60.12 (relating to Circumvention)

   E. Title 40 CFR § 60.13 (relating to Monitoring Requirements)

   F. Title 40 CFR § 60.14 (relating to Modification)

   G. Title 40 CFR § 60.15 (relating to Reconstruction)

   H. Title 40 CFR § 60.19 (relating to General Notification and Reporting Requirements)

7. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit holder shall submit a revision application to codify the appropriate requirements in the permit.

Additional Monitoring Requirements

8. The permit holder shall comply with the periodic monitoring requirements as specified in the attached “Periodic Monitoring Summary” upon issuance of the permit. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permit

holder shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time or minimum frequency specified in the "Periodic Monitoring Summary," for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances to avoid reporting deviations. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).

New Source Review Authorization Requirements

9. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule (including the terms, conditions, monitoring, recordkeeping, and reporting identified in registered PBRs and permits by rule identified in the PBR Supplemental Tables dated September 24, 2025 in the application for project 37704), 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

10. 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.

11. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

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

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

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

    C. Requirements of the non-rule Air Quality Standard Permit for Pollution Control Projects

Compliance Requirements

13. 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.

14. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:

    A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:

        (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:

            (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)

    B. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.

15. Use of Emission Credits to comply with applicable requirements:

    A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:

        (i) Title 30 TAC Chapter 115

        (ii) Title 30 TAC Chapter 117

        (iii) Offsets for Title 30 TAC Chapter 116

    B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:

        (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)-(d)

        (ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1

        (iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)-(d)

        (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122

        (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)

16. Use of Discrete Emission Credits to comply with the applicable requirements:

A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:

(i) Title 30 TAC Chapter 115

(ii) Title 30 TAC Chapter 117

(iii) If applicable, offsets for Title 30 TAC Chapter 116

(iv) Temporarily exceed state NSR permit allowables

B. The permit holder shall comply with the following requirements in order to use the credit to comply with the applicable requirements:

(i) The permit holder must notify the TCEQ according to 30 TAC § 101.376(d)

(ii) The discrete emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 4

(iii) The executive director has approved the use of the discrete emission credits according to 30 TAC § 101.376(d)(1)(A)

(iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.372(h) and 30 TAC Chapter 122

(v) Title 30 TAC § 101.375 (relating to Emission Reductions Achieved Outside the United States)

Permit Location

17. 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)

18. 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

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 (§ 122.144), Reporting Terms and Conditions (§ 122.145), and Compliance Certification Terms and Conditions (§ 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
AUXBLR	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1111-1	30 TAC Chapter 111, Visible Emissions	No changing attributes.
AUXBLR	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	R117-1	30 TAC Chapter 117, Subchapter B	No changing attributes.
AUXBLR	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	60Db	40 CFR Part 60, Subpart Db	No changing attributes.
CO2VENTDIS	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-4	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
CO2VENTSUC	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R5121-4	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
COOLINGTWR	INDUSTRIAL PROCESS COOLING TOWERS	N/A	R5760-ALL	30 TAC Chapter 115, HRVOC Cooling Towers	No changing attributes.
DEAERATOR	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R155-B-2-3	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
FLARE	FLARES	N/A	R1111-4	30 TAC Chapter 111, Visible Emissions	No changing attributes.
FUGITIVES	FUGITIVE EMISSION UNITS	N/A	R5780-1	30 TAC Chapter 115, HRVOC Fugitive Emissions	No changing attributes.
SMR	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115-B-2-2	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
SMR	PROCESS HEATERS/FURNACES	N/A	R7201	30 TAC Chapter 117, Subchapter B	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)
AUXBLR	EP	R1111-1	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
AUXBLR	EU	R117-1	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(A) § 117.310(c)(3) § 117.340(f)(1)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(c) § 117.335(d) § 117.335(f) § 117.335(f)(3) § 117.335(g) § 117.340(a)(2)(A) § 117.340(b)(1) § 117.340(b)(3) § 117.340(e) [G]§ 117.340(f)(2) § 117.8100(a) § 117.8100(a)(1) § 117.8100(a)(1)(A) § 117.8100(a)(1)(B) § 117.8100(a)(1)(B)(ii) § 117.8100(a)(1)(B)(iii) § 117.8100(a)(1)(C) § 117.8100(a)(2) [G]§ 117.8100(a)(3) § 117.8100(a)(4) § 117.8100(a)(5) § 117.8100(a)(5)(A) § 117.8100(a)(5)(B) [G]§	§ 117.345(a) § 117.345(f) [G]§ 117.345(f)(2) § 117.345(f)(7) § 117.345(f)(8) § 117.345(f)(9) § 117.8100(a)(5)(C)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.345(d) § 117.345(d)(2) § 117.345(d)(3) § 117.345(d)(4) § 117.345(d)(5) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8) § 117.8100(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
							117.8100(a)(5)(D) [G]§ 117.8100(a)(5)(E) § 117.8100(a)(6) § 117.8120 § 117.8120(1) § 117.8120(1)(A)		
AUXBLR	EU	R117-1	NH_3	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(2) § 117.310(c)(2)(A)	For boilers that inject urea or ammonia into the exhaust stream for NO_x control, ammonia emissions must not exceed 10 ppmv at 3.0% O_2, dry.	§ 117.335(a)(2) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(b)(1) § 117.340(b)(3) § 117.340(d) § 117.8000(b) § 117.8000(c) § 117.8000(c)(3) § 117.8000(c)(4) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8130 § 117.8130(3)	§ 117.345(a) § 117.345(f) § 117.345(f)(11) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7)
AUXBLR	EU	R117-1	NO_X	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(1)(A) § 117.310(b) [G]§ 117.310(e)(1) § 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(f)(1) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(3)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(c) § 117.335(d) § 117.335(g) § 117.340(a)(2)(A) § 117.340(b)(1) § 117.340(b)(3) § 117.340(c)(1) [G]§ 117.340(c)(3) [G]§ 117.340(f)(2) § 117.340(l)(2)	§ 117.345(a) § 117.345(f) [G]§ 117.345(f)(2) § 117.345(f)(8) § 117.345(f)(9) § 117.8100(a)(5)(C)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.345(d) § 117.345(d)(3) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	§ 117.340(o)(1) § 117.340(p)(1) § 117.8100(a) § 117.8100(a)(1) § 117.8100(a)(1)(A) § 117.8100(a)(1)(B) § 117.8100(a)(1)(B)(i) § 117.8100(a)(1)(B)(ii) § 117.8100(a)(1)(C) § 117.8100(a)(2) [G]§ 117.8100(a)(3) § 117.8100(a)(4) § 117.8100(a)(5) § 117.8100(a)(5)(A) § 117.8100(a)(5)(B) [G]§ 117.8100(a)(5)(D) [G]§ 117.8100(a)(5)(E) § 117.8100(a)(6)		[G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8) § 117.8100(c)
AUXBLR	EU	60Db	NO_X	40 CFR Part 60, Subpart Db	§ 60.44b(e) § 60.44b(h) § 60.44b(i) § 60.46b(a)	Except as provided in §60.44b(l), after the §60.8 performance test is completed no facility that simultaneously combusts only coal, oil, or natural gas with byproduct/waste shall discharge any gases that contain NOx in excess of the emission limit determined by the specified formula unless the facility has an annual capacity factor for coal, oil, and natural gas of 0.10 or less, and has a federally	§ 60.46b(c) § 60.46b(e) § 60.46b(e)(1) [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)(2) § 60.49b(a)(3) § 60.49b(b) § 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)
						enforceable limit of operation of an annual capacity factor for these fuels of 0.10 or less.			
AUXBLR	EU	60Db	PM	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
AUXBLR	EU	60Db	PM (Opacity)	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)

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)
AUXBLR	EU	60Db	SO_2	40 CFR Part 60, Subpart Db	§ 60.40b(a)	The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/hr)).	None	[G]§ 60.49b(d) § 60.49b(o)	§ 60.49b(a) § 60.49b(a)(1) § 60.49b(a)(3)
CO2VENTDIS	EP	R5121-4	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) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
CO2VENTDIS	EP	R5121-4	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 less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
CO2VENTSUC	EP	R5121-4	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 less than 612 parts per million by volume (ppmv) is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
CO2VENTS	EP	R5121-4	VOC	30 TAC Chapter	§ 115.127(a)(2)(A)	A vent gas stream having a	[G]§ 115.125	§ 115.126	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)
UC				115, Vent Gas Controls	[G]§ 115.122(a)(4) § 115.127(a)(2)	combined weight of volatile organic compounds (VOC) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title.	§ 115.126(2)	§ 115.126(2) § 115.126(4)	
COOLINGTWR	EP	R5760-ALL	Highly Reactive VOC	30 TAC Chapter 115, HRVOC Cooling Towers	§ 115.767(3) § 115.766(i)	Any site for which no stream directed to a cooling tower heat exchange system contains 5.0% or greater by weight HRVOC is exempt from the requirements of §115.761 of this title (relating to Site-wide Cap).	§ 115.764(c) § 115.764(d) § 115.764(e)(1)	§ 115.766(c) § 115.766(d) [G]§ 115.766(e) § 115.766(i)(1)	§ 115.766(i)(2)
DEAERATOR	EP	R155-B-2-3	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) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
FLARE	EU	R1111-4	Opacity	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(4)(A)	Visible emissions from a process gas flare shall not be permitted for more than five minutes in any two-hour period. Non-excessive upset events are subject to the provisions under §101.222(b).	§ 111.111(a)(4)(A)(i) § 111.111(a)(4)(A)(ii)	§ 111.111(a)(4)(A)(ii)	None
FUGITIVES	EU	R5780-1	Highly Reactive VOC	30 TAC Chapter 115, HRVOC Fugitive Emissions	§ 115.787(a)	Components that contact a process fluid containing less than 5.0% highly-reactive volatile organic compounds by weight on an annual average basis are exempt	None	§ 115.786(e) § 115.786(g)	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)
						from the requirements of this division (relating to Fugitive Emissions), except for 115.786(e) and (g) of this title (relating to Record keeping Requirements).			
SMR	EP	R115-B-2-2	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) equal to or less than 100 pounds in any continuous 24-hour period is exempt from §115.121(a)(1) of this title.	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2) § 115.126(4)	None
SMR	EU	R7201	CO	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(1) § 117.310(c)(1)(A) § 117.310(c)(3) § 117.340(f)(1)	CO emissions must not exceed 400 ppmv at 3.0% O 2, dry basis.	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(c) § 117.335(d) § 117.335(f) § 117.335(f)(3) § 117.335(g) § 117.340(a)(2)(A) § 117.340(b)(1) § 117.340(b)(3) § 117.340(e) [G]§ 117.340(f)(2) § 117.8100(a) § 117.8100(a)(1) § 117.8100(a)(1)(A) § 117.8100(a)(1)(B) § 117.8100(a)(1)(B)(ii) § 117.8100(a)(1)(B)(iii) § 117.8100(a)(1)(C)	§ 117.345(a) § 117.345(f) [G]§ 117.345(f)(2) § 117.345(f)(7) § 117.345(f)(8) § 117.345(f)(9) § 117.8100(a)(5)(C)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.345(d) § 117.345(d)(2) § 117.345(d)(3) § 117.345(d)(4) § 117.345(d)(5) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8) § 117.8100(c)

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
							§ 117.8100(a)(2) [G]§ 117.8100(a)(3) § 117.8100(a)(4) § 117.8100(a)(5) § 117.8100(a)(5)(A) § 117.8100(a)(5)(B) [G]§ 117.8100(a)(5)(D) [G]§ 117.8100(a)(5)(E) § 117.8100(a)(6) § 117.8120 § 117.8120(1) § 117.8120(1)(A)		
SMR	EU	R7201	NH_3	30 TAC Chapter 117, Subchapter B	§ 117.310(c)(2) § 117.310(c)(2)(A)	For process heaters that inject urea or ammonia into the exhaust stream for NO_x control, ammonia emissions must not exceed 10 ppmv at 3.0% O_2, dry.	§ 117.335(a)(2) § 117.335(a)(4) § 117.335(b) § 117.335(d) § 117.335(e) § 117.335(g) § 117.340(b)(1) § 117.340(b)(3) § 117.340(d) § 117.8000(b) § 117.8000(c) § 117.8000(c)(3) § 117.8000(c)(4) § 117.8000(c)(5) § 117.8000(c)(6) [G]§ 117.8000(d) § 117.8130 § 117.8130(3)	§ 117.345(a) § 117.345(f) § 117.345(f)(11) § 117.345(f)(9)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7)
SMR	EU	R7201	NO_X	30 TAC Chapter 117, Subchapter B	§ 117.310(d)(3) § 117.310(a) § 117.310(a)(8)(A)(i) § 117.310(b) [G]§ 117.310(e)(1)	An owner or operator may not use the alternative methods specified in §§ 117.315, 117.323 and 117.9800 to comply with the NO_x emission specifications	[G]§ 117.335(a)(1) § 117.335(a)(4) § 117.335(b) § 117.335(c) § 117.335(d) § 117.335(f)	§ 117.345(a) § 117.345(f) [G]§ 117.345(f)(2) § 117.345(f)(8) § 117.345(f)(9) § 117.8100(a)(5)(C)	§ 117.335(b) § 117.335(g) [G]§ 117.345(b) [G]§ 117.345(c) § 117.345(d) § 117.345(d)(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)
					§ 117.310(e)(2) [G]§ 117.310(e)(3) § 117.310(e)(4) § 117.340(f)(1) § 117.340(l)(2) § 117.340(p)(1) § 117.340(p)(3)	but shall use the mass emissions cap and trade program in Chapter 101, Subchapter H, Division 3, except that electric generating facilities must also comply with the daily and 30-day system cap emission limitations of § 117.320. An owner or operator may use the alternative methods specified in § 117.9800 to comply with § 117.320.	§ 117.335(f)(2) § 117.335(g) § 117.340(a)(2)(A) § 117.340(b)(1) § 117.340(b)(3) § 117.340(c)(1) [G]§ 117.340(c)(3) [G]§ 117.340(f)(2) § 117.340(l)(2) § 117.340(o)(1) § 117.340(p)(1) § 117.8100(a) § 117.8100(a)(1) § 117.8100(a)(1)(A) § 117.8100(a)(1)(B) § 117.8100(a)(1)(B)(i) § 117.8100(a)(1)(B)(ii) § 117.8100(a)(1)(C) § 117.8100(a)(2) [G]§ 117.8100(a)(3) § 117.8100(a)(4) § 117.8100(a)(5) § 117.8100(a)(5)(A) § 117.8100(a)(5)(B) [G]§ 117.8100(a)(5)(D) [G]§ 117.8100(a)(5)(E) § 117.8100(a)(6)		§ 117.8010 [G]§ 117.8010(1) § 117.8010(2) § 117.8010(2)(A) § 117.8010(2)(B) § 117.8010(2)(C) § 117.8010(2)(D) [G]§ 117.8010(3) § 117.8010(4) [G]§ 117.8010(5) § 117.8010(6) [G]§ 117.8010(7) [G]§ 117.8010(8) § 117.8100(c)

Additional Monitoring Requirements

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: AUXBLR	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-1
Pollutant: Opacity	Main Standard: § 111.111(a)(1)(C)
Monitoring Information	
Indicator: Visible Emissions	
Minimum Frequency: once per week	
Averaging Period: N/A	
Deviation Limit: A deviation shall be reported if visible emissions are observed or if opacity exceeds 15% averaged over a six-minute period.	
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 the result of the Test Method 9 is opacity above the opacity limit in the applicable requirement, the permit holder shall report a deviation.	

Permit Shield

Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
AUXBLR	N/A	40 CFR Part 63, Subpart DDDDD	Site is not a major source of HAPs.
AUXBLR	N/A	40 CFR Part 63, Subpart JJJJJJ	Gas-fired boilers are exempt from this subpart.
CO2VENTDIS	N/A	40 CFR Part 64, Compliance Assurance Monitoring	Unit does not use a control device to comply with any emission limitation or standard.
CO2VENTSUC	N/A	40 CFR Part 64, Compliance Assurance Monitoring	Unit does not use a control device to comply with any emission limitation or standard.
COOLINGTWR	N/A	40 CFR Part 63, Subpart Q	Facility is not major for HAPs.
FLARE	N/A	30 TAC Chapter 117, Subchapter B	Flares are specifically exempt from 30 TAC Chapter 117 Subchapter B.
FUGITIVES	N/A	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	Facility is not a petroleum refinery; a synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or a natural gas/gasoline processing operation, as defined in §115.10.
FUGITIVES	N/A	40 CFR Part 60, Subpart DDD	Facility is not a polypropylene, polyethylene, polystyrene, or poly (ethylene terephthalate) manufacturing facility.
FUGITIVES	N/A	40 CFR Part 60, Subpart VV	Facility is not a synthetic organic chemical manufacturing industry.
FUGITIVES	N/A	40 CFR Part 61, Subpart F	Facility does not produce ethylene dichloride by reaction of oxygen and hydrogen chloride with ethylene, vinyl chloride by any process, and/or one or more polymers containing any fraction of polymerized vinyl chloride.
FUGITIVES	N/A	40 CFR Part 61, Subpart J	Facility does not have equipment in benzene service.

Permit Shield

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

Unit / Group / Process ID No.	Group / Inclusive Units	Regulation	Basis of Determination
FUGITIVES	N/A	40 CFR Part 61, Subpart V	Facility does not have equipment in VHAP service.
FUGITIVES	N/A	40 CFR Part 63, Subpart H	Facility does not have components in HON service.
FUGITIVES	N/A	40 CFR Part 63, Subpart I	Facility is not a major source of HAPs.
SMR	N/A	40 CFR Part 63, Subpart DDDDD	Site is not a major source of HAPs.
SMR	N/A	40 CFR Part 63, Subpart JJJJJJ	This unit is a process heater, not a boiler, and is exempt from this subpart.

New Source Review Authorization References

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.: PSDTX995M1	Issuance Date: 08/09/2017
Nonattainment (NA) Permits	
NA Permit No.: N042	Issuance Date: 08/09/2017
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.: 32274	Issuance Date: 08/09/2017
Authorization No.: 155112	Issuance Date: 02/22/2019
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003

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**
AUXBLR	AUXILIARY BOILER	32274, PSDTX995M1, N042
CO2VENTDIS	CO2 COMPRESSOR DISCHARGE SIDE VENT	32274, PSDTX995M1, N042
CO2VENTSUC	CO2 COMPRESSOR SUCTION SIDE VENT	32274, PSDTX995M1, N042
COOLINGTWR	COOLING TOWER	32274, PSDTX995M1, N042
DEAERATOR	DEAERATOR	32274, PSDTX995M1, N042
FLARE	FACILITY FLARE	32274, PSDTX995M1, N042, 106.261/11/01/2003 [140396]
FUGITIVES	PLANT FUGITIVES	32274, PSDTX995M1, N042, 106.261/11/01/2003 [140396, 144168], 106.262/11/01/2003 [144168]
SMR	STEAM METHANE REFORMER	32274, 155112, PSDTX995M1, N042, 106.261/11/01/2003 [140710], 106.262/11/01/2003 [140710]

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

Appendix A

Acronym List

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

ACFM ..... actual cubic feet per minute
AMOC ..... alternate means of control
ARP ..... Acid Rain Program
ASTM ..... American Society of Testing and Materials
B/PA ..... Beaumont/Port Arthur (nonattainment area)
CAM ..... Compliance Assurance Monitoring
CD ..... control device
CEMS ..... continuous emissions monitoring system
CFR ..... Code of Federal Regulations
COMS ..... continuous opacity monitoring system
CVS ..... closed vent system
D/FW ..... Dallas/Fort Worth (nonattainment area)
EP ..... emission point
EPA ..... U.S. Environmental Protection Agency
EU ..... emission unit
FCAA Amendments ..... Federal Clean Air Act Amendments
FOP ..... federal operating permit
gr/100 scf ..... grains per 100 standard cubic feet
HAP ..... hazardous air pollutant
H/G/B ..... Houston/Galveston/Brazoria (nonattainment area)
H_2S ..... hydrogen sulfide
ID No. ..... identification number
lb/hr ..... pound(s) per hour
MACT ..... Maximum Achievable Control Technology (40 CFR Part 63)
MMBtu/hr ..... Million British thermal units per hour
NA ..... nonattainment
N/A ..... not applicable
NADB ..... National Allowance Data Base
NESHAP ..... National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61)
NO_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
PEMS ..... predictive emissions monitoring system
PM ..... particulate matter
ppmv ..... parts per million by volume
PRO ..... process unit
PSD ..... prevention of significant deterioration
psia ..... pounds per square inch absolute
RO ..... Responsible Official
SIP ..... state implementation plan
SO_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

Permit Numbers: 32274, PSDTX995M1, N042					Issuance Date: August 9, 2017		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
SMRSTACK	Steam Methane Reformer Stack (Routine)	NO_X	8.52	37.32	7, 8, 16, 17, 18, 19, 20	7, 8, 16, 17, 18, 19, 20, 21, 22	16, 17, 23
		PM	2.28	9.99			
		PM_{10}	2.28	9.99			
		$PM_{2.5}$	2.28	9.99			
		CO	4.35	19.05			
		NH_3	1.97	8.63			
		VOC	1.39	6.06			
		SO_2	3.87	16.95			
		H_2S	0.01	0.01			
	Steam Methane Reformer Stack (MSS) (6)	CO	23.69		8, 15, 16, 17	8, 15, 16, 17, 21, 22	16, 17
AUXSTACK	Auxiliary Boiler Stack	NO_X	8.80	35.04	3, 7, 9, 16, 17, 18, 19	3, 7, 9, 15, 16, 17, 18, 19, 21, 22	3, 16, 17, 23
		PM	8.80	35.04			
		PM_{10}	8.80	35.04			
		$PM_{2.5}$	8.80	35.04			
		CO	42.24	168.19			

Major NSR Summary Table

Permit Numbers: 32274, PSDTX995M1, N042					Issuance Date: August 9, 2017		
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (5)		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lbs/hour	TPY (4)	Special Condition/Application Information	Special Condition/Application Information	Special Condition/Application Information
		NH_3	3.05	12.14			
		VOC	2.13	8.51			
		SO_2	6.00	23.88			
		H_2S	0.01	0.01			
FLARESTACK	Facility Flare (Routine)	NO_X	0.52	2.29			
		CO	37.80	165.57			
		VOC	0.01	0.05	7, 10	7, 10, 21, 22	23
		SO_2	0.01	0.02			
		H_2S	0.01	0.01			
	Facility Flare (MSS)	NO_X	56.76	31.69			
		CO	408.54	451.59			
		VOC	57.59	18.71	7, 10, 15	7, 10, 15, 21, 22	23
		SO_2	1.09	0.35			
		H_2S	0.01	0.01			
FUGITIVE	Facility Fugitives (5)	VOC	0.16	0.69	4	4, 21	23
		CO	10.10	44.22			
COOLINGTWR	Cooling Tower	VOC	0.45	1.96	12	12, 21	23

Major NSR Summary Table

Permit Numbers: 32274, PSDTX995M1, N042					Issuance Date: August 9, 2017		
Emission Point No. (1)	**Source Name (2)**	**Air Contaminant Name (3)**	**Emission Rates (5)**		**Monitoring and Testing Requirements**	**Recordkeeping Requirements**	**Reporting Requirements**
			lbs/hour	**TPY (4)**	**Special Condition/Application Information**	**Special Condition/Application Information**	**Special Condition/Application Information**
		PM	0.42	1.82			
		PM_{10}	0.30	1.33			
		$PM_{2.5}$	0.01	0.01			
CO_2VENTSUC	CO_2 Recycle Suction Vent	CO (7)	88.26	193.30		21	
CO_2VENTDIS	CO_2 Recycle Discharge Vent						
DEAERATOR	Boiler Feedwater Deaerator	VOC	0.01	0.01		21	23
COLDBOX	Carbon Monoxide Cold Box	CO	0.01	0.06			
TCOOLTWR	Temporary Cooling Tower	VOC	0.13	0.55	12	12, 21	
		PM	0.01	0.04			
		PM_{10}	0.01	0.04			
		$PM_{2.5}$	0.01	0.01			

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
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
NH_3 - ammonia
CO - carbon monoxide
H_2S - hydrogen sulfide

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) An hourly CO rate of 23.69 lb/hr is applicable during periods of planned maintenance, start-up, and shutdown of the SMR. Emissions from MSS activities at the SMRSTACK shall be combined with normal emissions for the purposes of annual emissions reporting.
(7) Emissions for the two vents combined will not exceed 88.26 pounds per hour or 193.30 tons per year.

Texas Commission on Environmental Quality
Air Quality Permit

A Permit Is Hereby Issued To
Air Liquide Large Industries U.S. LP
Authorizing the Continued Operation of
Freeport HYCO Plant
Located at **Freeport, Brazoria County, Texas**
Latitude 28° 58′ 55″ Longitude −95° 23′ 9″

Permit: 32274, PSDTX995M1, and N042
Issuance Date: August 9, 2017
Expiration Date: August 9, 2027

For the Commission

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

operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction in a timely manner; comply with any additional recordkeeping requirements specified in special conditions in the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC § 116.115(b)(2)(E)]

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)] [1]
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 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 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 "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. [1]

[1] Please be advised that the requirements of this provision of the general conditions may not be applicable to greenhouse gas emissions.

Special Conditions

Permit Numbers 32274, PSDTX995M1 and N042

Emission Standards

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

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

Federal Applicability

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources promulgated in Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60):

   A. Subpart A, General Provisions.

   B. Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

Fugitive

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

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

   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 68°F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

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

   - piping and instrumentation diagram (PID);
   - a written or electronic database or electronic file;
   - color coding;
   - a form of weatherproof identification; or
   - 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 Paragraph 1 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 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 2 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 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve.

F. Accessible valves shall be monitored by leak checking for fugitive emissions at least quarterly using an approved gas analyzer 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 shut down 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 shut down 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, 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 11 shall be determined using the following formula:

(Vl + Vs) x 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.

N. Alternative connector monitoring frequency schedules of 40 CFR Part 63, Subpart H, National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, may be used in lieu of the annual connector instrument monitoring required by paragraph E of this permit condition.

Steam Methane Reformer and Auxiliary Boiler

5. Exhaust oxides of nitrogen (NO_X) emissions from the steam methane reformer (SMR) shall be controlled with a selective catalytic reduction (SCR) system. Emissions from the SMR shall not exceed:

A. 20.7 parts per million by volume (ppmvd) NO_x, dry basis, at 3 percent oxygen (O_2) based upon a three-hour average.

B. 25 ppmvd CO, at 3 percent O_2 based upon a three-hour average.

C. 10 ppmvd ammonia (NH_3), at 3 percent O_2.

D. 99.51 ppmvd NO_x, at 3 percent O_2 based on a three-hour average during planned MSS events listed in Special Condition 14.

E. 944.6 ppmvd CO, at 3 percent O_2 based on a three-hour average during planned MSS events listed in Special Condition 14.

Compliance with the short-term NO_x and CO emission rates listed in the attached MAERT for the SMR shall be determined on a rolling three-hour average.

6. Exhaust NO_x emissions from the auxiliary boiler shall be controlled with a SCR system.

   Emissions from the boiler shall not exceed:

   A. 12.1 ppmvd NO_x, at 3 percent O_2 based upon a three-hour average.

   B. 100 ppmvd CO, at 3 percent O_2 based upon a three-hour average while firing natural gas and 130 ppmvd CO, at 3 percent O_2 based upon a three-hour average while firing a combination of natural gas and plant off-gases.

   C. 10 ppmvd NH_3, at 3 percent O_2.

   D. 87.55 ppmvd NO_x at 3 percent O_2 based on a three-hour average, during planned MSS activities listed in Special Condition 17.

   E. 405.8 ppmvd CO, at 3 percent O_2 based on three-hour average, during planned MSS activities listed in Special Condition 17.

   Compliance with the short-term NO_x and CO emission rates listed in the attached MAERT for the auxiliary boiler shall be determined on a rolling three-hour average.

7. Fuels for the SMR and the auxiliary boiler are limited to pressure swing adsorber (PSA) off-gas, cold box off-gas, crude hydrogen, Regeneration gas and sweet natural gas containing no more than 5 grains of sulfur per 100 dry standard cubic feet (dscf). Fuel for the flare pilots is limited to sweet natural gas containing no more than 5 grains of sulfur per 100 dscf. The sulfur content of the natural gas shall be documented by a sample taken and analyzed every quarter. The sample and analysis may be performed by the gas supplier. If the samples taken during the first two years are all no greater than 5 grains of sulfur per 100 dscf, then the sampling period (for sulfur content of the natural gas) may be extended to an annual verification.

8. The SMR heater firing rate shall not exceed 284 million MMBtu per hour (hr), determined by fuel flow at the higher heating value of the fuel.

9. The auxiliary boiler firing rate shall not exceed 440 MMBtu/hr, determined by fuel flow at the higher heating value of the fuel.

Flare

10. Flares shall be designed and operated in accordance with the following requirements:

    A. The flare systems shall be designed such that the combined assist natural gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity at all times when emissions may be vented to them.

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

    B. The flare shall be operated with a flame present at all times and/or have a constant pilot flame. The pilot flame shall be continuously monitored by a thermocouple, infrared monitor, or ultraviolet monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications.

    C. The flare shall be operated with no visible emissions except periods not to exceed a total of five minutes during any two consecutive hours.

    D. The permit holder shall install a continuous flow monitor and composition analyzer (or calorimeter, if applicable) that provide a record of the vent stream flow and composition to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition (or Btu content) shall be recorded each hour.

    The monitors shall be calibrated or have a calibration check performed on an annual basis to meet the following accuracy specifications: the flow monitor shall be ±5.0%, temperature monitor shall be ±2.0% at absolute temperature, and pressure monitor shall be ±5.0 mm Hg.

    Calibration of the analyzer shall follow the procedures and requirements of Section 10.0 of 40 CFR Part 60, Appendix B, Performance Specification 9, as amended through October 17, 2000 (65 FR 61744), except that the multi-point calibration procedure in Section 10.1 of Performance Specification 9 shall be performed at least once every calendar quarter instead of once every month, and the mid-level calibration check procedure in Section 10.2 of Performance Specification 9 shall be performed at least once every calendar week instead of once every 24 hours. The calibration gases used for calibration procedures shall be in accordance with Section 7.1 of Performance Specification 9. Net heating value of the gas combusted in the flare shall be calculated according to the equation given in 40 CFR §60.18(f)(3) as amended through October 17, 2000 (65 FR 61744).

    The calorimeter shall be calibrated, installed, operated, and maintained, in accordance with manufacturer recommendations, to continuously measure and record the net heating value of the gas sent to the flare, in British thermal units/standard cubic foot of the gas.

    The monitors and analyzers shall operate as required by this section at least 95% of the time when the flare is operational, averaged over a rolling 12 month period. Flared gas

net heating value and actual exit velocity determined in accordance with 40 CFR §§60.18(f)(3) and 60.18(f)(4) shall be recorded at least once every hour. Hourly mass emission rates shall be determined and recorded using the above readings and the emission factors used in the permit renewal application submitted to TCEQ on March 04, 2016.

NH_3 tank

11. While filling the aqueous NH_3 tank, it shall be vented back to the NH_3 tank truck or to the flare. The truck connections to the tank shall be checked while filling the tank. The loading shall be secured and corrective action taken if any leakage is noted. The NH_3 storage tank shall be equipped with a high liquid level trip to automatically stop overfilling of the tank.

Cooling Tower

12. The cooling towers (EPNs: COOLINGTWR and TCOOLTWR) shall be operated and monitored in accordance with the following:

    A. The VOC associated with cooling tower (EPNs: COOLINGTWR and TCOOLTWR) water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12 month period. The emissions between VOC monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the 2 VOC monitored results.

    B. Each cooling tower shall be equipped with drift eliminators having manufacturer's design assurance of 0.005% for the COOLINGTWR and 0.0005% for the TCOOLTWR drift or less. Drifts eliminators shall be maintained and visual inspected at least annually. The permit holder shall maintain records of all inspections and repairs.

    C. Total dissolved solids (TDS) shall not exceed 1550 parts per million by weight (ppmw). Dissolved solids in the cooling water drift are considered to be emitted as PM, PM_{10}, and $PM_{2.5}$ as represented in the permit application calculations.

    D. Cooling water shall be sampled at least once per week for TDS.

    E. Cooling water sampling shall be representative of the cooling tower feed water and shall be conducted using approved methods.

        (1) The analysis method for TDS shall be EPA Method 160.1, ASTM D5907, and SM 2540 C [SM - 19th edition of Standard Methods for Examination of Water]. Water samples should be capped upon collection, and transferred to a laboratory area for analysis.

        (2) Alternate sampling and analysis methods may be used to comply with D(1) with written approval from the TCEQ Regional Director.

(3) Records of all instrument calibrations and test results and process measurements used for the emission calculations shall be retained.

F. Emission rates of PM, PM_{10} and $PM_{2.5}$ shall be calculated using the measured TDS, the design drift rate and the daily maximum and average actual cooling water circulation rate for the short term and annual average rates. Alternately, the design maximum circulation rate may be used for all calculations. Emission records shall be updated monthly.

G. The actual cooling water circulation rate shall be measured or estimated using design pump curves. The measured or estimated hourly circulation rate is used to calculate emissions.

13. The cooling towers (EPNs: COOLINGTWR and TCOOLTWR) can be operated concurrently until the permitted additional cell is installed on the EPN COOLINGTWR. At such time the permit holder shall dismantle the temporary cooling tower.

Planned Maintenance, Startup and Shutdown

14. This permit authorizes maintenance, start-up, and shutdown (MSS) emissions from the following emissions sources and emission point numbers (EPNs):

A. Facility Flare (EPN: FLARESTACK)

B. SMR Stack (EPN: SMRSTACK)

C. Auxiliary Boiler (EPN: AUXSTACK)

The MSS activities at the Facility Flare (EPN FLARESTACK) are limited to the following:

Reformer Start-Up/Shutdown	6 per year
Cold Box Start-Up/Shutdown	12 per year
PSA Start-Up/PSA Shutdown with and without Crude Hydrogen (H_2) Import	36 per year
Carbon Monoxide (CO) Customer Minor and Major Maintenance	5 per year
CO Customer Shutdown	60 per year
H_2 Customer Shutdown	24 per year
AUX. Boiler Start-Up/Shutdown	18 SU/18 SD per year

The MSS activities at the SMR stack (EPN SMRSTACK) are limited to the following:

Steam Drum Inspection	Once per year
Induction Draft Fan inspection	Once per year

SCR Inspection/Replacement	Once in 3 years
SMR Tube/Refractory Inspection	Once in 3 years
E-101 Exchanger Cleaning	Four times per year
Customer Outage	Once per year
Feed/Fuel Valve Inspection Repair	Once per year
Natural Gas Feed Compressor Inspection	Once in 3 years
Flare Pilot Tip Inspection	Once in 2 years
Amine System Inspection	Once in 3 years
SMR Reforming Catalyst Replacement	Once in 6 years
Electrical Breaker/Transformer PMs	Once in 3 years
PSV Replacement/Certification	Once in 5 years

The MSS activities at the Auxiliary Boiler Stack (EPN AUXSTACK) are limited to the following:

Steam Drum Inspection	Once per year
Forced Draft Fan Inspection	Once per year
SCR Inspection/Replacement	Once in 3 years
Boiler Tube Inspection	Once in 3 years
Customer Outage	Four times per year
Feed/Fuel Valve Inspection Repair	Once per year
Flare Pilot Tip Inspection	Once in 2 years
Electrical Transformer PMs	Once in 3 years
PSV Replacement/Certification	Once in 5 years
Refractory Inspection/Repair	Once in 3 years

15. Any MSS activities not listed in Special Condition 14 are not authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of each maintenance activity and the emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information:

    A. The physical location at which emissions from the MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;

    B. The type of planned MSS activity and the reason for the planned activity;

    C. The common name and the facility identification number of the facilities at which the MSS activity and emissions occurred;

    D. The date and time of the MSS activity and its duration; and

    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 representations, consistent with good engineering practice.

    If mixed phase materials must be removed from process equipment, the cleared material shall be routed to a knock-out drum or equivalent for initial phase separation. If the cumulative air contaminant partial pressure is greater than 0.5 pound per square inch (psi) at the normal process temperature or 95^{o}F, any vents in the system must be routed to the Facility Flare (EPN FLARESTACK). All liquids from process equipment or storage vessels must be removed to the maximum extent practical prior to opening equipment to commence maintenance. Liquids must be stored in a closed vessel until transferred to permanent storage or treatment.

    Any gas or vapor removed from process equipment or storage vessels must be routed to the facility flare if cumulative contaminant partial pressure is greater than 0.5 psi at the normal process temperature or 95^{o}F. Control must be maintained until the cumulative contaminant concentration is less than 34,000 parts per million by volume (ppmv) as methane. The process equipment or storage vessels shall be depressurized to the flare prior to degassing. The facilities shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the flare to the extent allowed by process equipment or storage vessel design. The locations and/or identifiers where the purge (or flush if a liquid is used) material enters the process equipment or storage vessel and the exit points for the exhaust gases shall be recorded.

    If the process equipment or storage vessel is purged with a gas, two system volumes of purge gas must have passed through the control device, before the vent stream may be sampled to verify acceptable air pollutant (VOC or non-VOC) concentration prior to uncontrolled venting. The VOC sampling and analysis shall be performed using an instrument with a flame ionization detector (FID), or a TCEQ-approved alternative detector. The instrument/FID must meet all requirements specified in Section 8.1 of the U.S. Environmental Protection Agency (EPA) Method 21 (Title 40 Code of Federal Regulations [40 CFR] Part 60, Appendix A). Sampling shall be performed as follows:

F. Immediately prior to performing sampling, the instrument/FID shall be calibrated with zero and span calibration gas mixtures. Zero gas shall be certified to contain between 0 and 10 ppmv total hydrocarbons. Span calibration gas shall be methane at a concentration between 34,000 and 50,000 ppmv, and certified by the manufacturer to be ±2 percent accurate. Calibration error for the zero and span calibration gas checks must be less than 5 percent of the span calibration gas value before sampling may be conducted. The results of these checks shall be recorded.

G. The sampling point shall be upstream of the inlet to the flare. 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.

H. 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 five minutes, recording one-minute averages. The highest one-minute average measured VOC concentration shall not exceed 34,000 ppmv as methane prior to uncontrolled venting.

Initial Demonstration of Compliance

16. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from Steam Methane Reformer Stack (EPN: SMRSTACK), Auxiliary Boiler Stack (EPN: AUXSTACK) to demonstrate compliance with the MAERT. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual and the U.S. Environmental Protection Agency (EPA) Reference Methods. (EPN: AUXSTACK testing completed on July 1998, EPN: SMRSTACK testing completed on September 2001.

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 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 the test reports. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

B. Components emitted from the Steam Methane Reformer (EPN: SMRSTACK), Auxiliary Boiler (EPN: AUXSTACK) and to be tested for include (but are not limited to) NO_x, SO_2, H_2S, NH_3, CO, O_2 and VOC. Emission rates of NO_x, NH_3, SO_2 and CO shall be reported in both pound per hour (lb/hr) and ppmvd for compliance testing.

C. Sampling shall occur within 60 days after achieving the maximum operating rate, but no later than 180 days after initial start-up of the facilities (or increase in production, as appropriate) and at such other times (identify the need for any periodic sampling here) as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

D. The plant shall operate at maximum production rates during stack emission testing. Primary operating parameters that enable determination of production rate shall be monitored and recorded during the stack test. The SCR catalyst temperature and NH_3 injection rate shall also be recorded. These parameters are to be determined at the pretest meeting. If the plant is unable to operate at maximum rates during testing, then future production rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved. 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 contaminant concentration (identified in Special Conditions 5 and 6) is greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

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

One copy to the appropriate TCEQ Regional Office.
One copy to each local air pollution control program.

F. Sampling ports and platform(s) shall be incorporated into the design of (source stack and EPN) according to the specifications set forth in the attachment entitled “Chapter 2, Guidelines for Stack Sampling Facilities” of the Texas Commission on Environmental Quality (TCEQ) Sampling Procedures Manual. Alternate sampling facility designs must be submitted for approval to the TCEQ Regional Director.

G. Stack sampling shall be repeated as often as required by the Executive Director of the TCEQ after the initial sampling in conformity with A, B, and D of this condition

Continuous Demonstration of Compliance

17. The permit holder shall install, calibrate, maintain and operate continuous emission monitoring systems (CEMS) to measure and record the in-stack concentrations of NO_x, CO, and O_2 at the Steam Methane Reformer Stack (EPN: SMRSTACK) and the Auxiliary Boiler Stack (EPN: AUXSTACK). The NO_x and CO concentrations shall be corrected in accordance with Special Conditions 5 and 6. The CEMS shall comply with the following requirements:

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

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

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

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

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

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

    C. The monitoring data shall be reduced to hourly average concentrations at least once every day, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emission rate in lb/hr at least once every week as follows:

        The measured one hour average concentration from the CEMS shall be multiplied by the flow rate measured during the latest stack test performed in accordance with Special Condition 16 to determine the hourly emission rate.

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 Steam Methane Reformer Stack (EPN: SMRSTACK) and the Auxiliary Boiler Stack (EPN: AUXSTACK) 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 Steam Methane Reformer Stack (EPN: SMRSTACK) and the Auxiliary Boiler Stack (EPN: AUXSTACK) 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.

18. The NH_3 injection rate to each SCR unit shall be continuously monitored and recorded at least once an hour.

19. The catalyst temperature of each SCR unit shall be continuously monitored and recorded at least once an hour.

20. The gaseous NH_3 concentration in the Steam Methane Reformer stack and Auxiliary Boiler stack gas shall be tested according to one of the methods and the frequency listed below. All methods are subject to the compliance requirements of Special Conditions 5 and 6 and recordkeeping requirements of Special Conditions 21 and 22. Any other method used for measuring NH_3 slip shall require prior approval from the TCEQ Regional Office. Testing for NH_3 slip is only required on days when Steam Methane Reformer or Auxiliary Boiler is in operation.

A. Method 1: The permit holder may install, calibrate, maintain, and operate a CEMS to measure and record the concentrations of NH_3.

B. Method 2: The NH_3 slip may be measured using a sorbent or stain tube device specific for NH_3 measurement in the 5 to 10 ppm range. The frequency of sorbent or stain tube testing shall be until operating procedures have been developed to prevent excess amounts of NH_3 from being introduced in the Steam Methane Reformer and the Auxiliary Boiler and have proven successful with regard to controlling NH_3 slip. Successful control is defined, in this section, as ten successive daily readings of eight ppm NH_3 or less with Steam Methane Reformer and Auxiliary Boiler in operation with NH_3 controls for NO_x. Following the successful control of NH_3 slip, the frequency may be reduced to weekly testing. If the weekly sorbent or stain tube testing indicates an NH_3 slip concentration which exceeds eight ppm at two consecutive tests, the permit holder shall begin NH_3 testing by either the Phenol-Nitroprusside Method, the Indophenol Method, or the EPA Conditional Test Method CTM-027 on a quarterly basis until such time as the SCR unit catalyst is replaced; or until the quarterly testing indicates NH_3 slip is eight ppm or less; or until the weekly sorbent stain tube testing indicates a NH_3 slip of eight ppm or less. Note that the Method CTM-027 may be modified to allow use of a Method 6 Train with ion chromatography (without isokinetic sampling and glass sampling train) as an acceptable

alternative for NH_3 testing in this case. Daily sorbent or stain tube testing shall resume when the catalyst is within 30 days of its useful life expectancy.

C. Method 3: As an approved alternative to measuring NH_3 using sorbent or stain tube testing, NH_3, CEMS, or a second NO_x CEMS, the permit holder may install and operate a dual stream system of NO_x CEMS at the exit of the SMR or auxiliary boiler. One of the exhaust streams would be routed, in an unconverted state, to one NO_x CEMS and the other exhaust stream would be routed through a NH_3 converter to convert NH_3 to NO_x and then to a second NO_x CEMS. The NH_3 slip concentration shall be calculated from the delta between the two NO_x CEMS readings (converted and unconverted).

Recordkeeping

21. All records required by the conditions of this permit shall be maintained on-site for a minimum of five years. They shall be made available to the TCEQ Executive Director or a designated representative upon request.

22. The following data shall be maintained by the source on a five-year rolling retention basis and shall be made available to the TCEQ Executive Director or a designated representative, or any local air pollution control program with jurisdiction, upon request:

A. For Steam Methane Reformer:

(1) Average hourly NO_x emissions in lb/hr.

(2) Average hourly NO_x emissions in ppmvd at 3 percent O_2.

(3) Average hourly actual CO emissions in lb/hr.

(4) Average hourly CO emissions in ppmvd at 3 percent O_2.

(5) The results of all sampled NH_3 concentrations.

B. For Auxiliary Boiler:

(1) Average hourly NO_x emissions in lb/hr.

(2) Average hourly NO_x emissions in ppmvd at 3 percent O_2.

(3) Average hourly actual CO emissions in lb/hr.

(4) Average hourly CO emissions in ppmvd at 3 percent O_2.

(5) The results of all sampled NH_3 concentrations.

C. The holder of this permit shall maintain a raw data file of all CEMS measurements, including CEMS performance testing measurements, and all CEMS calibration checks and adjustments and maintenance performed on these systems in a permanent form suitable for inspection for at least two years.

D. For the Facility Flare:

(1) Average hourly flow rates to the flare.

(2) Average hourly Btu content of vent stream to the flare.

Offsets

23. This permit amendment is conditioned on the following:

Use of Air Liquide ERC Certificate Number 1566 for 42 tons per year (tpy) (dated May 1, 2002) to offset 4.8 tpy additional VOC emission increases due to the emission rate corrections, prior to the start-up of the operations authorized by this amendment.

Date: August 9, 2017

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 32274, PSDTX995M1 and N042

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)
SMRSTACK	Steam Methane Reformer Stack (Routine)	NO_X	8.52	37.32
		PM	2.28	9.99
		PM_{10}	2.28	9.99
		$PM_{2.5}$	2.28	9.99
		CO	4.35	19.05
		NH_3	1.97	8.63
		VOC	1.39	6.06
		SO_2	3.87	16.95
		H_2S	0.01	0.01
	Steam Methane Reformer Stack (MSS) (6)	CO	23.69	
AUXSTACK	Auxiliary Boiler Stack	NO_X	8.80	35.04
		PM	8.80	35.04
		PM_{10}	8.80	35.04
		$PM_{2.5}$	8.80	35.04
		CO	42.24	168.19
		NH_3	3.05	12.14
		VOC	2.13	8.51
		SO_2	6.00	23.88
		H_2S	0.01	0.01

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FLARESTACK	Facility Flare (Routine)	NO_X	0.52	2.29
		CO	37.80	165.57
		VOC	0.01	0.05
		SO_2	0.01	0.02
		H_2S	0.01	0.01
	Facility Flare (MSS)	NO_X	56.76	31.69
		CO	408.54	451.59
		VOC	57.59	18.71
		SO_2	1.09	0.35
		H_2S	0.01	0.01
FUGITIVE	Facility Fugitives (5)	VOC	0.16	0.69
		CO	10.10	44.22
COOLINGTWR	Cooling Tower	VOC	0.45	1.96
		PM	0.42	1.82
		PM_{10}	0.30	1.33
		$PM_{2.5}$	0.01	0.01
CO_2VENTSUC	CO_2 Recycle Suction Vent	CO (7)	88.26	193.30
CO_2VENTDIS	CO_2 Recycle Discharge Vent			
DEAERATOR	Boiler Feedwater Deaerator	VOC	0.01	0.01
COLDBOX	Carbon Monoxide Cold Box	CO	0.01	0.06
TCOOLTWR	Temporary Cooling Tower	VOC	0.13	0.55
		PM	0.01	0.04
		PM_{10}	0.01	0.04
		$PM_{2.5}$	0.01	0.01

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
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
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
NH_3 - ammonia
CO - carbon monoxide
H_2S - hydrogen sulfide
(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) An hourly CO rate of 23.69 lb/hr is applicable during periods of planned maintenance, start-up, and shutdown of the SMR. Emissions from MSS activities at the SMRSTACK shall be combined with normal emissions for the purposes of annual emissions reporting.
(7) Emissions for the two vents combined will not exceed 88.26 pounds per hour or 193.30 tons per year.

Date: August 9, 2017