

FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO
Occidental Chemical Corporation

AUTHORIZING THE OPERATION OF
Ingleside Plant
Ingleside Ethylene LLC
Industrial Organic Chemicals

LOCATED AT
San Patricio County, Texas
Latitude 27° 52' 51" Longitude 97° 14' 39"
Regulated Entity Number: RN100211176

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: O3806 Issuance Date: _____

For the Commission

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General Terms and Conditions

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

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

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

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

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

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

1. Permit holder shall comply with the following requirements:
 - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
 - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.
 - C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs,

subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.

- D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
 - E. Emission units subject to 40 CFR Part 63, Subparts YY and ZZZZ as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.560 and § 113.1090 which incorporates the 40 CFR Part 63 Subpart by reference.
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):
- A. Title 30 TAC § 101.1 (relating to Definitions), insofar as the terms defined in this section are used to define the terms used in other applicable requirements
 - B. Title 30 TAC § 101.3 (relating to Circumvention)
 - C. Title 30 TAC § 101.8 (relating to Sampling), if such action has been requested by the TCEQ
 - D. Title 30 TAC § 101.9 (relating to Sampling Ports), if such action has been requested by the TCEQ
 - E. Title 30 TAC § 101.10 (relating to Emissions Inventory Requirements)
 - F. Title 30 TAC § 101.201 (relating to Emission Event Reporting and Recordkeeping Requirements)
 - G. Title 30 TAC § 101.211 (relating to Scheduled Maintenance, Start-up, and Shutdown Reporting and Recordkeeping Requirements)
 - H. Title 30 TAC § 101.221 (relating to Operational Requirements)
 - I. Title 30 TAC § 101.222 (relating to Demonstrations)
 - J. Title 30 TAC § 101.223 (relating to Actions to Reduce Excessive Emissions)
3. Permit holder shall comply with the following requirements of 30 TAC Chapter 111:
- A. Visible emissions from stationary vents with a flow rate of less than 100,000 actual cubic feet per minute and constructed after January 31, 1972 that are not listed in the Applicable Requirements Summary

attachment for 30 TAC Chapter 111, Subchapter A, Division 1 , shall not exceed 20% opacity averaged over a six-minute period. The permit holder shall comply with the following requirements for stationary vents at the site subject to this standard:

- (i) Title 30 TAC § 111.111(a)(1)(B) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(1)(E)
- (iii) Title 30 TAC § 111.111(a)(1)(F)(i), (ii), (iii), or (iv)
- (iv) For emission units with vent emissions subject to 30 TAC § 111.111(a)(1)(B), complying with 30 TAC § 111.111(a)(1)(F)(ii), (iii), or (iv), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_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 visible emissions from all other sources not specified in 30 TAC § 111.111(a)(1), (4), or (7); the permit holder shall comply with the following requirements:

- (i) Title 30 TAC § 111.111(a)(8)(A) (relating to Requirements for Specified Sources)
- (ii) Title 30 TAC § 111.111(a)(8)(B)(i) or (ii)
- (iii) For a source subject to 30 TAC § 111.111(a)(8)(A), complying with 30 TAC § 111.111(a)(8)(B)(i) or (ii), and capable of producing visible emissions from, but not limited to, particulate matter, acid gases and NO_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 sources that are subject to the emission limitation of 30 TAC § 111.111(a)(8)(A) and Periodic Monitoring (PM) as specified in the “Applicable Requirements Summary” and “Additional Monitoring Requirements” attachments:
 - (1) An observation of visible emissions from a source which is required to comply with 30 TAC § 111.111(a)(8)(A) shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter.
 - (2) Records of all observations shall be maintained.
 - (3) Visible emissions observations of sources operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of sources operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions shall be determined with each source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each source during the observation. For outdoor locations, the observer shall select

a position where the sun is not directly in the observer's eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

(4) Compliance Certification:

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

- C. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.
- D. For emission units with contributions from uncombined water, the permit holder shall comply with the requirements of 30 TAC § 111.111(b).

- E. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
 - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)
 - (ii) Sources with an effective stack height (h_e) less than the standard effective stack height (H_e), must reduce the allowable emission level by multiplying it by $[h_e/H_e]^2$ as required in 30 TAC § 111.151(b)
 - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- F. Outdoor burning, as stated in 30 TAC § 111.201, shall not be authorized unless the following requirements are satisfied:
 - (i) Title 30 TAC § 111.205 (relating to Exception for Fire Training)
 - (ii) Title 30 TAC § 111.207 (relating to Exception for Recreation, Ceremony, Cooking, and Warmth)
 - (iii) Title 30 TAC § 111.219 (relating to General Requirements for Allowable Outdoor Burning)
 - (iv) Title 30 TAC § 111.221 (relating to Responsibility for Consequences of Outdoor Burning)
- 4. For storage vessels maintaining working pressure as specified in 30 TAC Chapter 115, Subchapter B, Division 1: “Storage of Volatile Organic Compounds,” the permit holder shall comply with the requirements of 30 TAC § 115.112(c)(1).
- 5. Permit holder shall comply with the following 30 TAC Chapter 115, Subchapter C requirements:
 - A. When filling stationary gasoline storage vessels (Stage I) for motor vehicle fuel dispensing facilities specified in 30 TAC Chapter 115, Subchapter C, the permit holder shall comply with the following requirements:
 - (i) Title 30 TAC § 115.221 (relating to Emission Specifications)
 - (ii) Title 30 TAC § 115.222 (relating to Control Requirements)
 - (iii) Title 30 TAC § 115.223 (relating to Alternate Control Requirements)
 - (iv) Title 30 TAC § 115.224 (relating to Inspection Requirements)

(v) Title 30 TAC § 115.225 (relating to Testing Requirements)

(vi) Title 30 TAC § 115.226 (relating to Recordkeeping Requirements)

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

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

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

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

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

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

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

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

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

7. The permit holder shall comply with the following requirements for units subject to any subpart of 40 CFR Part 61, unless otherwise stated in the applicable subpart:

A. Title 40 CFR § 61.05 (relating to Prohibited Activities)

B. Title 40 CFR § 61.07 (relating to Application for Approval of Construction or Modification)

C. Title 40 CFR § 61.09 (relating to Notification of Start-up)

D. Title 40 CFR § 61.10 (relating to Source Reporting and Request Waiver)

E. Title 40 CFR § 61.12 (relating to Compliance with Standards and Maintenance Requirements)

F. Title 40 CFR § 61.13 (relating to Emissions Tests and Waiver of Emission Tests)

G. Title 40 CFR § 61.14 (relating to Monitoring Requirements)

H. Title 40 CFR § 61.15 (relating to Modification)

- I. Title 40 CFR § 61.19 (relating to Circumvention)
8. For facilities where total annual benzene quantity from waste is greater than or equal to 1 megagram per year and less than 10 megagrams per year and subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
 - A. Title 40 CFR § 61.355(a)(1)(iii), (a)(2), (a)(4)(i) - (ii), (a)(6), (b), and (c)(1) - (3) (relating to Test Methods, Procedures, and Compliance Provisions), for calculation procedures
 - B. Title 40 CFR § 61.356(a) (relating to Recordkeeping Requirements)
 - C. Title 40 CFR § 61.356(b), and (b)(1) (relating to Recordkeeping Requirements)
 - D. Title 40 CFR § 61.357(a), and (c) (relating to Reporting Requirements)
 9. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.
 10. For ethylene process facilities subject to 40 CFR Part 63, Subpart YY with benzene laden waste streams and total annual benzene quantity from the facility of less than 10 megagrams per year the permit holder shall comply with the following requirements for control of spent caustic and dilution steam blowdown waste streams as specified in 40 CFR § 63.1095(b)(1) (Title 30 TAC Chapter 113, Subchapter C, § 113.560 incorporated by reference):
 - A. For facilities with waste managed in containers the permit holder shall comply with the following requirements:
 - (i) Title 40 CFR § 61.345(a)(1) - (3), (b), and (c) (relating to Standards: Containers)
 - (ii) Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
 - (iii) Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)
 - (iv) Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)
 - B. For facilities with waste managed in individual drain systems the permit holder shall comply with the following requirements:
 - (i) Title 40 CFR § 61.346(a)(1)(i)(A), (B), (ii), (2), and (3) (relating to Standards: Individual Drain Systems)

- (ii) Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
- (iii) Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)
- (iv) Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)

Additional Monitoring Requirements

11. Unless otherwise specified, the permit holder shall comply with the compliance assurance monitoring requirements as specified in the attached “CAM Summary” upon issuance of the permit. In addition, the permit holder shall comply with the following:
 - A. The permit holder shall comply with the terms and conditions contained in 30 TAC § 122.147 (General Terms and Conditions for Compliance Assurance Monitoring).
 - B. The permit holder shall report, consistent with the averaging time identified in the “CAM Summary,” deviations as defined by the deviation limit in the “CAM Summary.” Any monitoring data below a minimum limit or above a maximum limit, that is collected in accordance with the requirements specified in 40 CFR § 64.7(c), shall be reported as a deviation. Deviations shall be reported according to 30 TAC § 122.145 (Reporting Terms and Conditions).
 - C. The permit holder may elect to collect monitoring data on a more frequent basis and average the data, consistent with the averaging time specified in the “CAM Summary,” for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis. In no event shall data be collected and used in particular instances in order to avoid reporting deviations. All monitoring data shall be collected in accordance with the requirements specified in 40 CFR § 64.7(c).
 - D. The permit holder shall operate the monitoring, identified in the attached “CAM Summary,” in accordance with the provisions of 40 CFR § 64.7.
 - E. The permit holder shall comply with either of the following requirements for any capture system associated with the VOC control device subject to CAM. If the results of the following inspections indicate that the capture system is not working properly, the permit holder shall promptly take necessary corrective actions:
 - (i) Once a year the permit holder shall inspect the capture system in compliance of CAM for leaks in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppm above

background or as defined by the underlying applicable requirement;
or

- (ii) Once a month, the permit holder shall conduct a visual, audible, and/or olfactory inspection of the capture system in compliance of CAM to detect leaking components.

F. The permit holder shall comply with either of the following requirements for any bypass of the control device subject to CAM. If the results of the following inspections or monitoring indicate bypass of the control device, the permit holder shall promptly take necessary corrective actions and report a deviation:

- (i) Install a flow indicator that is capable of recording flow, at least once every fifteen minutes, immediately downstream of each valve that if opened would allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere; or
- (ii) Once a month, the permit holder shall inspect the valves checking the position of the valves and the condition of the car seals. Identify all times when the car seal has been broken and the valve position has been changed to allow a vent stream to bypass the control device and be emitted, either directly or indirectly, to the atmosphere. Electronic locks may be used in place of car seals provided they are monitored by the plant's control system and records of the monitoring, verifying that the valves have not been opened, can be made available upon request.

G. The permit holder shall comply with the requirements of 40 CFR § 70.6(a)(3)(ii)(A) and 30 TAC § 122.144(1)(A)-(F) for documentation of all required inspections.

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

New Source Review Authorization Requirements

13. Permit holder shall comply with the requirements of New Source Review authorizations issued or claimed by the permit holder for the permitted area, including permits, permits by rule, standard permits, flexible permits, special permits, permits for existing facilities including Voluntary Emissions Reduction Permits and Electric Generating Facility Permits issued under 30 TAC Chapter 116, Subchapter I, or special exemptions referenced in the New Source Review Authorization References attachment. These requirements:
 - A. Are incorporated by reference into this permit as applicable requirements
 - B. Shall be located with this operating permit
 - C. Are not eligible for a permit shield
14. 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.
15. The permit holder shall maintain records to demonstrate compliance with any emission limitation or standard that is specified in a permit by rule (PBR) or Standard Permit listed in the New Source Review Authorizations attachment. The records shall yield reliable data from the relevant time period that are representative of the emission unit's compliance with the PBR or Standard Permit. These records may include, but are not limited to, production capacity and throughput, hours of operation, safety data sheets (SDS), chemical composition of raw materials, speciation of air contaminant data, engineering calculations, maintenance records, fugitive data, performance tests, capture/control device efficiencies, direct pollutant monitoring (CEMS, COMS, or PEMS), or control device parametric monitoring. These records shall be made readily accessible and available as required by 30 TAC § 122.144. Any monitoring or recordkeeping data indicating noncompliance with the PBR or Standard Permit shall be considered and reported as a deviation according to 30 TAC § 122.145 (Reporting Terms and Conditions).

Compliance Requirements

16. 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.

Risk Management Plan

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

Protection of Stratospheric Ozone

18. Permit holders at a site subject to Title VI of the FCAA Amendments shall meet the following requirements for protection of stratospheric ozone:
 - A. Any on site servicing, maintenance, and repair on refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants or non-exempt substitutes shall be conducted in accordance with 40 CFR Part 82, Subpart F. Permit holders shall ensure that repairs on or refrigerant removal from refrigeration and nonmotor vehicle air-conditioning appliances using ozone-depleting refrigerants are performed only by properly certified technicians using certified equipment. Records shall be maintained as required by 40 CFR Part 82, Subpart F.
 - B. The permit holder shall comply with 40 CFR Part 82, Subpart F related to the disposal requirements for appliances using Class I or Class II (ozone-depleting) substances or non-exempt substitutes as specified in 40 CFR §§ 82.150 - 82.166 and the applicable Part 82 Appendices.

Alternative Requirements

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

Permit Location

20. The permit holder shall maintain a copy of this permit and records related to requirements listed in this permit on site.

Attachments

Applicable Requirements Summary

Additional Monitoring Requirements

New Source Review Authorization References

Alternative Requirement

Applicable Requirements Summary

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Note: A “none” entry may be noted for some emission sources in this permit’s “Applicable Requirements Summary” under the heading of “Monitoring and Testing Requirements” and/or “Recordkeeping Requirements” and/or “Reporting Requirements.” Such a notation indicates that there are no requirements for the indicated emission source as identified under the respective column heading(s) for the stated portion of the regulation when the emission source is operating under the conditions of the specified SOP Index Number. However, other relevant requirements pursuant to 30 TAC Chapter 122 including Recordkeeping Terms and Conditions (30 TAC § 122.144), Reporting Terms and Conditions (30 TAC § 122.145), and Compliance Certification Terms and Conditions (30 TAC § 122.146) continue to apply.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
BLASTMSS	VISIBLE EMISSIONS	N/A	R111-BLASTMSS	30 TAC Chapter 111, Visible Emissions	No changing attributes.
CR-11	INDUSTRIAL PROCESS COOLING TOWERS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-12-MSS	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115- C3/C4REGEN	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
CR-12-MSS	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-13	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-14	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-15	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-16	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-17	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-18	FUGITIVE EMISSION UNITS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
CR-9	SRIC ENGINES	N/A	60III- EMERGEN	40 CFR Part 60, Subpart III	No changing attributes.
CR-9	SRIC ENGINES	N/A	63ZZZ- EMERGEN	40 CFR Part 63, Subpart ZZZ	No changing attributes.
CR-MISC-ULD	LOADING/UNLOADING OPERATIONS	N/A	R115-HVP	30 TAC Chapter 115, Loading and Unloading of VOC	Product Transferred = Gasoline, True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = No control device., Control Options = Vapor balance system., Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.
CR-MISC-ULD	LOADING/UNLOADING OPERATIONS	N/A	R115-LVP	30 TAC Chapter 115, Loading and Unloading of VOC	Product Transferred = Volatile organic compounds other than liquefied petroleum gas, crude oil, condensate and gasoline, True Vapor Pressure = True vapor pressure is less than 1.5 psia.
CR-P1	LOADING/UNLOADING OPERATIONS	N/A	R115-LPG	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
CR-P1	LOADING/UNLOADING OPERATIONS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
CR-P2	LOADING/UNLOADING OPERATIONS	N/A	R115-LPG	30 TAC Chapter 115, Loading and Unloading of VOC	No changing attributes.
CR-P2	LOADING/UNLOADING OPERATIONS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4520A	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4520A	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4520A	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4520B	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4520B	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4520B	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4520C	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4520C	STORAGE TANKS/VESSELS	N/A	R115-CW-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4520C	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
D-4540A	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4540A	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4540A	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4540B	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4540B	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4540B	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4545	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4545	STORAGE TANKS/VESSELS	N/A	R115-SC-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4545	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4720	STORAGE TANKS/VESSELS	N/A	R115-WO-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4720	STORAGE TANKS/VESSELS	N/A	R115-WO-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4720	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
D-4850	STORAGE TANKS/VESSELS	N/A	R115-DB-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4850	STORAGE TANKS/VESSELS	N/A	R115-DB-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4850	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4851	STORAGE TANKS/VESSELS	N/A	R115-HG-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4851	STORAGE TANKS/VESSELS	N/A	R115-HG-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4851	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4852	STORAGE TANKS/VESSELS	N/A	R115-SO-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4852	STORAGE TANKS/VESSELS	N/A	R115-SO-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4852	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
D-4853	STORAGE TANKS/VESSELS	N/A	R115-HO-HVP6	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-6
D-4853	STORAGE TANKS/VESSELS	N/A	R115-HO-HVP7	30 TAC Chapter 115, Storage of VOCs	Control Device = CR-7
D-4853	STORAGE TANKS/VESSELS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
GRPFWPENG	SRIC ENGINES	NGL-11, NGL-12, NGL-13	60III- EMERFWP	40 CFR Part 60, Subpart III	No changing attributes.
GRPFWPENG	SRIC ENGINES	NGL-11, NGL-12, NGL-13	63ZZZZ- EMERFWP	40 CFR Part 63, Subpart ZZZZ	No changing attributes.
GRPTRKLOAD	LOADING/UNLOADING OPERATIONS	CR-G1, CR-G2	R115-HVP1	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = Vapor control system with a direct flame incinerator., Control Options = Vapor control system that maintains a control efficiency of at least 90%., Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.
GRPTRKLOAD	LOADING/UNLOADING OPERATIONS	CR-G1, CR-G2	R115-HVP2	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia., Daily Throughput = Daily throughput not determined since 30 TAC § 115.217(a)(2)(A) or 30 TAC § 115.217(b)(3)(A) exemption is not utilized., Chapter 115 Control Device Type = Vapor control system with a direct flame incinerator.,

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					Control Options = Vapor control system that maintains a control efficiency of at least 90%, Vapor Tight = All liquid and vapor lines are equipped with fittings which make vapor-tight connections that close automatically when disconnected.
GRPTRKLOAD	LOADING/UNLOADING OPERATIONS	CR-G1, CR-G2	R115-LVP	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure is less than 1.5 psia.
GRPTRKLOAD	LOADING/UNLOADING OPERATIONS	CR-G1, CR-G2	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
PAINTMSS	VISIBLE EMISSIONS	N/A	R111-PAINTMSS	30 TAC Chapter 111, Visible Emissions	No changing attributes.
PRE-FLARE	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115-FLAREMSS	30 TAC Chapter 115, Vent Gas Controls	No changing attributes.
PRE-FLARE	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
PRE-TO-HP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115-HIGHPRESS1	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-6

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
PRE-TO-HP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115- HIGHPRESS2	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-7b
PRE-TO-HP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
PRE-TO-LP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115- LOWPRESS1	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-6
PRE-TO-LP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115- LOWPRESS2	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-7
PRE-TO-LP	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	No changing attributes.
PRE-TO-O2R	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115-OXYRICH1	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-6
PRE-TO-O2R	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R115-OXYRICH2	30 TAC Chapter 115, Vent Gas Controls	Control Device = CR-7

Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
PRE-TO-O2R	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	63YY	40 CFR Part 63, Subpart YY	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)
BLASTMSS	EU	R111-BLASTMSS	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(8)(A)	Visible emissions shall not be permitted to exceed an opacity of 30% for any six-minute period from all other sources not specified in this section.	** See Periodic Monitoring Summary	None	None
CR-11	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-12-MSS	EP	R115-C3/C4REGEN	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.127(c)(2)	A vent gas stream specified in §115.121(c)(2) which emits less than or equal to 5 tons (4,536 kg) of total uncontrolled VOC in any one calendar year is exempt from the requirements of §115.121(c)(2).	[G]§ 115.125 § 115.126(2)	§ 115.126 § 115.126(2)	None
CR-12-MSS	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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)
CR-13	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-14	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-15	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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)
CR-16	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-17	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-18	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-9	EU	60III- EMERGEN	CO	40 CFR Part 60, Subpart III	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW	§ 60.4209(a)	§ 60.4214(b)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 60.4218 § 89.112(a)	and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a CO emission limit of 3.5 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).			
CR-9	EU	60III-EMERGEN	NMHC and NO _x	40 CFR Part 60, Subpart III	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than 560 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with an NMHC+NO _x emission limit of 6.4 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	None
CR-9	EU	60III-EMERGEN	PM	40 CFR Part 60, Subpart III	§ 60.4205(b) § 60.4202(a)(2) § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218 § 89.112(a)	Owners and operators of emergency stationary CI ICE, that are not fire pump engines, with a maximum engine power greater than or equal to 130 KW and less than or equal to 2237 KW and a displacement of less than 10 liters per cylinder and is a 2007 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as stated in 40 CFR 60.4202(a)(2) and 40 CFR 89.112(a).	§ 60.4209(a)	§ 60.4214(b)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
CR-9	EU	63ZZZZ-EMERGEN	EXEMPT	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(b)(1) § 63.6595(c) § 63.6640(f)(1) [G]§ 63.6640(f)(2) § 63.6640(f)(3)	An affected source which meets either of the criteria in paragraphs §63.6590(b)(1)(i)-(ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).	None	None	§ 63.6645(c) § 63.6645(f)
CR-MISC-ULD	EU	R115-HVP	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.212(b)(3) § 115.212(b)(2) § 115.212(b)(3)(A) § 115.212(b)(3)(A)(i) § 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.212(b)(3)(D) § 115.214(b)(1)(B) § 115.214(b)(1)(C)	All land-based VOC transfer to or from transport vessels shall be conducted in the manner specified for leak-free operations.	§ 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.214(b)(1)(A) § 115.214(b)(1)(A)(i) § 115.214(b)(1)(A)(ii) § 115.214(b)(1)(A)(iii)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(iii)	None
CR-MISC-ULD	EU	R115-LVP	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(b)(2) § 115.212(b)(2) § 115.214(b)(1)(B) § 115.214(b)(1)(D) § 115.214(b)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division except as specified.	§ 115.214(b)(1)(A) § 115.214(b)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
CR-P1	EU	R115-LPG	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(b)(4) § 115.212(b)(2) § 115.214(b)(1)(B) § 115.214(b)(1)(D) § 115.214(b)(1)(D)(i)	Crude oil, condensate, and liquefied petroleum gas. All loading and unloading of crude oil, condensate, and liquefied petroleum gas is exempt from division, except for the specified requirements.	§ 115.214(b)(1)(A) § 115.214(b)(1)(A)(i)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(ii) § 115.216(3)(B)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
CR-P1	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
CR-P2	EU	R115-LPG	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(b)(4) § 115.212(b)(2) § 115.214(b)(1)(B) § 115.214(b)(1)(D) § 115.214(b)(1)(D)(i)	Crude oil, condensate, and liquefied petroleum gas. All loading and unloading of crude oil, condensate, and liquefied petroleum gas is exempt from division, except for the specified requirements.	§ 115.214(b)(1)(A) § 115.214(b)(1)(A)(i)	§ 115.216 § 115.216(3)(A) § 115.216(3)(A)(ii) § 115.216(3)(B)	None
CR-P2	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4520A	EU	R115-CW-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4520A	EU	R115-CW-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4520A	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4520B	EU	R115-CW-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4520B	EU	R115-CW-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4520B	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4520C	EU	R115-CW-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4520C	EU	R115-CW-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4520C	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4540A	EU	R115-SC-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4540A	EU	R115-SC-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4540A	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4540B	EU	R115-SC-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4540B	EU	R115-SC-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4540B	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4545	EU	R115-SC-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4545	EU	R115-SC-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4545	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4720	EU	R115-WO-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4720	EU	R115-WO-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4720	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4850	EU	R115-DB-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4850	EU	R115-DB-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4850	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4851	EU	R115-HG-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4851	EU	R115-HG-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4851	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4852	EU	R115-SO-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4852	EU	R115-SO-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
D-4852	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
D-4853	EU	R115-HO-HVP6	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4853	EU	R115-HO-HVP7	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(c)(1)	Tanks shall not store VOC, other than crude oil or condensate, unless the required pressure is maintained, or they are equipped with the appropriate control device specified in Table I(b).	** See Periodic Monitoring Summary	None	None
D-4853	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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)
GRPFWPE NG	EU	60III-EMERFWP	NMHC and NO _x	40 CFR Part 60, Subpart IIII	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 130 KW and less than or equal to 560 KW and a displacement of less than 30 liters per cylinder and is a 2009 model year and later must comply with an NMHC+NO _x emission limit of 4.0 g/KW-hr, as listed in Table 4 to this subpart.	§ 60.4209(a)	§ 60.4214(b)	None
GRPFWPE NG	EU	60III-EMERFWP	PM	40 CFR Part 60, Subpart IIII	§ 60.4205(c)-Table 4 § 60.4206 § 60.4207(b) [G]§ 60.4211(a) § 60.4211(c) [G]§ 60.4211(f) § 60.4218	Owners and operators of emergency stationary fire pump CI ICE with a maximum engine power greater than or equal to 130 KW and less than or equal to 560 KW and a displacement of less than 30 liters per cylinder and is a 2009 model year and later must comply with a PM emission limit of 0.20 g/KW-hr, as listed in Table 4 to this subpart.	§ 60.4209(a)	§ 60.4214(b)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPFWPE NG	EU	63ZZZZ-EMERFWP	112(B) HAPS	40 CFR Part 63, Subpart ZZZZ	§ 63.6590(c)	Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines as applicable. No further requirements apply for such engines under this part.	None	None	None
GRPTRKLO AD	EU	R115-HVP1	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.212(b)(1) § 115.212(b)(1)(A) § 115.212(b)(3)(A) § 115.212(b)(3)(A)(i) § 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.212(b)(3)(E) § 115.214(b)(1)(B) § 115.214(b)(1)(C)	Vapors caused by the loading of VOC with a TVP ≥ 1.5 psia must be controlled using one of the methods specified in §115.212(b)(1)(A)-(C).	§ 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.214(b)(1)(A) § 115.214(b)(1)(A)(i) § 115.214(b)(1)(A)(ii) § 115.214(b)(1)(A)(iii) § 115.215 § 115.215(1) § 115.215(10) [G]§ 115.215(2) § 115.215(4) § 115.215(5) § 115.215(8) § 115.215(9) § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(i)	§ 115.216 § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(i) § 115.216(2) § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(ii) § 115.216(3)(A)(iii) § 115.216(3)(B)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
GRPTRKLO AD	EU	R115-HVP2	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.212(b)(1) § 115.212(b)(1)(A) § 115.212(b)(3)(A) § 115.212(b)(3)(A)(i) § 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.212(b)(3)(E) § 115.214(b)(1)(B) § 115.214(b)(1)(C)	Vapors caused by the loading of VOC with a TVP ≥ 1.5 psia must be controlled using one of the methods specified in §115.212(b)(1)(A)-(C).	§ 115.212(b)(3)(B) [G]§ 115.212(b)(3)(C) § 115.214(b)(1)(A) § 115.214(b)(1)(A)(i) § 115.214(b)(1)(A)(ii) § 115.214(b)(1)(A)(iii) § 115.215 § 115.215(1) § 115.215(10) [G]§ 115.215(2) § 115.215(4) § 115.215(5) § 115.215(8) § 115.215(9) § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(i)	§ 115.216 § 115.216(1) § 115.216(1)(A) § 115.216(1)(A)(i) § 115.216(2) § 115.216(3)(A) § 115.216(3)(A)(i) § 115.216(3)(A)(ii) § 115.216(3)(A)(iii) § 115.216(3)(B)	None
GRPTRKLO AD	EU	R115-LVP	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(b)(2) § 115.214(b)(1)(B) § 115.214(b)(1)(D) § 115.214(b)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 1.5 psia is exempt from the requirements of this division except as specified.	§ 115.214(b)(1)(A) § 115.214(b)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
GRPTRKLO AD	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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)
PAINTMSS	EU	R111-PAINTMSS	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(8)(A)	Visible emissions shall not be permitted to exceed an opacity of 30% for any six-minute period from all other sources not specified in this section.	** See Periodic Monitoring Summary	None	None
PRE-FLARE	EP	R115-FLAREMSS	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.123(c) **See Alternative Requirement	In specified counties, alternate methods to demonstrate and document compliance with control requirements or exemption criteria may be approved by the Executive Director per §115.910.	[G]§ 115.125 § 115.126(2) **See Alternative Requirement	§ 115.126 § 115.126(2) **See Alternative Requirement	**See Alternative Requirement
PRE-FLARE	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY **See Alternative Requirement	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY **See Alternative Requirement	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY **See Alternative Requirement	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY **See Alternative Requirement
PRE-TO-HP	EP	R115-HIGHPRESS1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control requirements specified in §115.122(c)(1)(A)-(C).	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None
PRE-TO-HP	EP	R115-HIGHPRESS2	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None

Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						requirements specified in §115.122(c)(1)(A)-(C).			
PRE-TO-HP	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY
PRE-TO-LP	EP	R115-LOWPRESS1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control requirements specified in §115.122(c)(1)(A)-(C).	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None
PRE-TO-LP	EP	R115-LOWPRESS2	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control requirements specified in §115.122(c)(1)(A)-(C).	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None
PRE-TO-LP	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

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)
PRE-TO-O2R	EP	R115-OXYRICH1	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control requirements specified in §115.122(c)(1)(A)-(C).	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None
PRE-TO-O2R	EP	R115-OXYRICH2	VOC	30 TAC Chapter 115, Vent Gas Controls	§ 115.122(c)(1) § 115.121(c)(1) § 115.122(c)(1)(A)	Any vent gas streams affected by §115.121(c)(1) must be controlled properly using one of the control requirements specified in §115.122(c)(1)(A)-(C).	[G]§ 115.125 § 115.126(2) ** See CAM Summary	§ 115.126 § 115.126(2)	None
PRE-TO-O2R	EU	63YY	112(B) HAPS	40 CFR Part 63, Subpart YY	§ 63.1103 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable monitoring and testing requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable recordkeeping requirements of 40 CFR Part 63, Subpart YY	The permit holder shall comply with the applicable reporting requirements of 40 CFR Part 63, Subpart YY

Additional Monitoring Requirements

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CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-HP	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-HIGHPRESS1
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-HP	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-HIGHPRESS2
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-LP	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-LOWPRESS1
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-LP	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-LOWPRESS2
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-O2R	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-OXYRICH1
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

CAM Summary

Unit/Group/Process Information	
ID No.: PRE-TO-O2R	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R115-OXYRICH2
Pollutant: VOC	Main Standard: § 115.122(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per day	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>CAM Text: The monitoring device should be installed in the combustion chamber or immediately downstream of the combustion chamber. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, other written procedures that provide an adequate assurance that the device is calibrated accurately, or at least annually, whichever is more frequent, and shall be accurate to within one of the following:</p> <ul style="list-style-type: none"> ± 0.75% of the temperature being measured expressed in degrees Celsius; or ± 2.5 degrees Celsius. 	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: BLASTMSS	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-BLASTMSS
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(8)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Quarterly	
Averaging Period: n/a	
Deviation Limit: Opacity limit of 30% for blast operations.	
<p>Periodic Monitoring Text: An observation of visible emissions from the source shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter. Records of all observations shall be maintained. Visible emissions observations of the source operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions shall be determined with the source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from the source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. The determination of visible emissions shall be made at the nearest property line downwind of the source or within 500 feet of the source, whichever is closer to the source. A certified opacity reader is not required for visible emissions observations.</p> <p>If visible emissions are not present at the prescribed points of observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A). However, if visible emissions are present at the points of observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(8)(B) 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 requirements. 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. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.</p>	

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520A	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520A	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520B	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520B	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520C	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4520C	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-CW-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4540A	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4540A	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4540B	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4540B	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4545	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4545	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SC-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4720	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-WO-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

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Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4720	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-WO-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4850	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-DB-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4850	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-DB-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4851	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-HG-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4851	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-HG-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4852	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SO-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4852	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-SO-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4853	
Control Device ID No.: CR-6	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-HO-HVP6
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: D-4853	
Control Device ID No.: CR-7	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R115-HO-HVP7
Pollutant: VOC	Main Standard: § 115.112(c)(1)
Monitoring Information	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1,300 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the minimum limit shall be considered and reported as a deviation.</p>	

*The permit holder may elect to collect monitoring data on a more frequent basis and calculate the average as specified by the minimum frequency, for purposes of determining whether a deviation has occurred. However, the additional data points must be collected on a regular basis and shall not be collected and used in particular instances to avoid reporting deviations.

Periodic Monitoring Summary

Unit/Group/Process Information	
ID No.: PAINTMSS	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R111-PAINTMSS
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(8)(A)
Monitoring Information	
Indicator: Visible emissions	
Minimum Frequency: Quarterly	
Averaging Period: n/a	
Deviation Limit: Opacity limit of 30% for paint operations.	
<p>Periodic Monitoring Text: An observation of visible emissions from the source shall be conducted at least once during each calendar quarter unless the source is not operating for the entire quarter. Records of all observations shall be maintained. Visible emissions observations of the source operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions shall be determined with the source in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from the source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. The determination of visible emissions shall be made at the nearest property line downwind of the source or within 500 feet of the source, whichever is closer to the source. A certified opacity reader is not required for visible emissions observations.</p> <p>If visible emissions are not present at the prescribed points of observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(8) and (a)(8)(A). However, if visible emissions are present at the points of observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(8)(B) 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 requirements. 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. Certification of opacity readers determining opacities under Method 9 (as outlined in 40 CFR Part 60, Appendix A) to comply with opacity monitoring requirements shall be accomplished by completing the Visible Emissions Evaluators Course, or approved agency equivalent, no more than 180 days before the opacity reading.</p>	

New Source Review Authorization References

New Source Review Authorization References 80

New Source Review Authorization References by Emission Unit..... 81

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.: EPA-PSDTX-1292-GHG	Issuance Date: 01/10/2014
PSD Permit No.: EPA-PSD-TX-1338-GHG	Issuance Date: 05/23/2014
PSD Permit No.: PSDTX1292	Issuance Date: 01/23/2014
PSD Permit No.: PSDTX1338	Issuance Date: 05/16/2014
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.: 102482	Issuance Date: 01/23/2014
Authorization No.: 107530	Issuance Date: 05/16/2014
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.227	Version No./Date: 09/04/2000
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.265	Version No./Date: 09/04/2000
Number: 106.352	Version No./Date: 09/04/2000
Number: 106.373	Version No./Date: 09/04/2000
Number: 106.412	Version No./Date: 09/04/2000
Number: 106.454	Version No./Date: 11/01/2001
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.473	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000

New Source Review Authorization References by Emissions Unit

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

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
BLASTMSS	MSS BLAST OPERATIONS	106.263/11/01/2001
CR-11	CR COOLING TOWER	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-12-MSS	C ₃ /C ₄ HYDROGENATION REGENERATION VENT	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-13	CR FURNACE AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-14	CR CHARGE GAS AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-15	CR RECOVERY AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-16	CR C ₃ + AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-17	CR WASTE TREATMENT AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-18	CR LPG/GASOLINE STORAGE AND LOADING AREA FUGITIVES	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-9	EMERGENCY GENERATOR DIESEL ENGINE	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-G1	SOUTH VOC TRUCK LOADING RACK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-G2	NORTH VOC TRUCK LOADING RACK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-MISC-ULD	MISC. VOC UNLOADING OPERATIONS	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-P1	SOUTH C ₃ /C ₄ TRUCK LOADING RACK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
CR-P2	NORTH C ₃ /C ₄ TRUCK LOADING RACK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4520A	CONTAMINATED WATER STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4520B	CONTAMINATED WATER STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338

New Source Review Authorization References by Emissions Unit

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

Unit/Group/Process ID No.	Emission Unit Name/Description	New Source Review Authorization
D-4520C	CONTAMINATED WATER STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4540A	SPENT CAUSTIC STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4540B	SPENT CAUSTIC STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4545	SPENT CAUSTIC PH ADJUSTMENT TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4720	WASH OIL STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4850	DEBUTANIZER BOTTOMS STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4851	HEAVY GASOLINE STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4852	SLOP OIL STORAGE TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
D-4853	HEAVY OIL TANK	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
NGL-11	FIREWATER PUMP DIESEL ENGINE	102482, EPA-PSD-TX-1292-GHG, PSDTX1292
NGL-12	FIREWATER PUMP DIESEL ENGINE	102482, EPA-PSD-TX-1292-GHG, PSDTX1292
NGL-13	FIREWATER PUMP DIESEL ENGINE	102482, EPA-PSD-TX-1292-GHG, PSDTX1292
PAINTMSS	MSS PAINT OPERATIONS	106.263/11/01/2001
PRE-FLARE	HEADER TO FLARE	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
PRE-TO-HP	HIGH PRESSURE HEADER TO TO	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
PRE-TO-LP	LOW PRESSURE HEADER TO TO	107530, EPA-PSD-TX-1338-GHG, PSDTX1338
PRE-TO-O2R	OXYGEN-RICH HEADER TO TO	107530, EPA-PSD-TX-1338-GHG, PSDTX1338

Alternative Requirement

Alternative Requirement 84

Bryan W. Shaw, Ph.D., P.E., *Chairman*
Toby Baker, *Commissioner*
Jon Niermann, *Commissioner*
Richard A. Hyde, P.E., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Protecting Texas by Reducing and Preventing Pollution

April 26, 2016

91 7199 9991 7033 2823 1988

MR MARK EVANS
ENVIRONMENTAL MANAGER - PROJECTS
OCCIDENTAL CHEMICAL CORPORATION
P. O. BOX CC
INGLESIDE, TEXAS 78362-0710

Re: Alternative Method of Control (AMOC) #12
Multi-Point Ground Flare System for Ethylene Production Facilities
Ingleside Chemical Plant
Gregory, San Patricio County
Regulated Entity Number: RN 100211176
Customer Reference Number: CN 600125256
Affected Permits: 107530, PSDTX1338, and O3806

Dear Mr. Evans:

The Executive Director of the Texas Commission on Environmental Quality (TCEQ) has made a final decision to approve Occidental Chemical Corporation's (OxyChem's) above-referenced Alternate Means of Control (AMOC) Plan for the construction and use of a multi-point ground flare (MPGF) system to control emissions from limited high-pressure maintenance, startup, and shutdown events as well emergency situations. Enclosed you will find the authorized AMOC Plan and Provisions.

During the required public comment period, one (1) comment was received. In accordance with 30 Texas Administrative Code (TAC) § 115.915(4), the executive director has considered and prepared a written response for the significant and timely written comment filed in connection with this AMOC plan. The detailed response to the comment is enclosed (Attachment A). Minor corrections and clarifications were made to the AMOC Plan based on the comment, while other requested changes were not made. Other minor changes have been made to the final AMOC Plan to reflect changes made to the final corresponding Alternate Means of Emission Limitation (AMEL) approved by the U.S. Environmental Protection Agency (EPA) on April 11, 2016 and published in the Federal Register on April 21, 2016 (<https://www.gpo.gov/fdsys/pkg/FR-2016-04-21/pdf/2016-08911.pdf>).

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Mr. Evans
AMOC 12
Page 2
April 26, 2016

Please note you have an opportunity to appeal the Executive Director's determination on the AMOC Plan to the commission within 15 days from the date of receipt of this letter under § 115.914(7)). Also, under § 115.914(8), the EPA has 45 days from the date of the TCEQ's final approval of the AMOC Plan to inform the Air Permits Division that it disapproves the AMOC Plan. Following § 115.914(9)-(11), the AMOC plan will become effective with the latter of either EPA acceptance of, or the Commission's issuance of the AMOC plan. Once effective, the AMOC becomes part of the State Implementation Plan.

This AMOC Plan will allow OxyChem to use the MPGF system with the specified provisions as an alternative to complying with 30 TAC Chapter 115, Subchapter B: General Volatile Organic Compound Sources, Division 2: Vent Gas Control.

This AMOC Plan and Provisions may supersede certain requirements in Permit Nos. 107530 and PSD-TX-1338. To ensure effective and consistent enforceability, we request that OxyChem incorporate this AMOC Plan and Provisions into the permits through an alteration or amendment no later than 90 days after this approval.

This AMOC Plan and Provisions change applicable requirements for the site, including existing monitoring, reporting, recordkeeping, and testing requirements which has implications for the applicability of any Site Operating Permit (SOP) requirements. We request that OxyChem update the pending SOP Permit No. O3806 application to incorporate this AMOC Plan and Provisions.

This action is taken under authority delegated by the Executive Director of the TCEQ. If you have any questions, please call Anne Inman, P.E. at (512) 239-1276, or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,



Michael Wilson, P.E., Director
Air Permits Division
Texas Commission on Environmental Quality

Enclosures

cc: Mr. Mark Hansen, Acting Associate Director Air Programs, U.S. EPA Region 6, Dallas, TX

Project No.: 228259

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



Alternative Method of Control (AMOC) Plan

AMOC No.: AMOC-12

Occidental Chemical Corporation

Gregory, San Patricio County

Regulated Entity Number: RN100211176

- A. This AMOC Plan Authorization shall apply at the Occidental Chemical Corporation (OxyChem), Ingleside Ethylene Facilities in Gregory, San Patricio County identified by Regulated Entity Number RN100211176 under Title 30 Texas Administrative Code Section 115.910 (30 TAC § 115.910) for a multi-point ground flare (MPGF) system for use during limited high-pressure maintenance, startup, and shutdown events as well emergency situations.
- B. A copy of the AMOC application and the AMOC Plan provisions must be kept on-site or at a centralized location and made available at the request of personnel from the TCEQ or any pollution control agency with jurisdiction. The AMOC application is defined by the submittal received April 14, 2014 and supporting documentation submitted September 8, 2015 and October 8, 2015.
- C. This authorization is granted under § 115.910 for emissions sources regulated by 30 TAC Chapter 115, Subchapter B: General Volatile Organic Compound Sources, Division 2: Vent Gas Control, as applicable, including 30 TAC §§ 115.121 and shall apply in lieu thereof. Compliance with this AMOC is independent of OxyChem's obligation to comply with all other TCEQ permits and applicable state and federal law.

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

- D. In accordance with 30 TAC § 115.913(c), all representations submitted for this plan, as well as the provisions listed here, become conditions upon which this AMOC Plan is issued. It is unlawful to vary from the emission limits, control requirements, monitoring, testing, reporting or recordkeeping requirements of this Plan.

- E. The MPGF system identified as EPN CR-8 and EPN CR-8-MSS in Permit Nos. 107530 and PSD-TX-1338 is subject to this AMOC plan. The system collects and combusts hydrocarbon process streams during high pressure planned maintenance, start-up and shut-down activities and emergencies. Operations of the pressure-assisted MPGF will achieve a reduction in emissions at least equivalent to the reduction in emissions being controlled by a steam-assisted, air-assisted, or non-assisted flare complying with the requirements of §115.121, 40 CFR 63.11(b), or 40 CFR 60.18(b).
- F. The MPGF system must be designed and operated such that the following conditions are met:
1. The combustion zone gas net heating value (*NHVcz*) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf) or the combustion zone gas lower flammability limit (*LFLcz*) is less than or equal to 6.5 percent by volume. OxyChem must demonstrate compliance with the *NHVcz* or *LFLcz* metric by continuously complying with a 15-minute block average. OxyChem must calculate and monitor for the *NHVcz* or *LFLcz* according to the following:

a. Calculation of *NHVcz*

- i. The owner or operator shall determine *NHVcz* from compositional analysis data by using the following equation:

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

Where:

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

i = Individual component in flare vent gas.

n = Number of components in flare vent gas.

x_i = Concentration of component *i* in flare vent gas, volume percent.

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

- ii. For MPGF, *NHV_{vg}* = *NHVcz*.

b. Calculation of *LFLcz*

- i. The owner or operator shall determine *LFLcz* from compositional analysis data by using the following equation:

$$LFL_{vg} = \frac{1}{\sum_{i=1}^n \left[\frac{\chi_i}{LFL_i} \right]} * 100$$

Where:

LFLvg = Lower flammability limit of flare vent gas, volume %

n = Number of components in the vent gas.

i = Individual component in the vent gas.

χ_i = Concentration of component *i* in the vent gas, volume %.

LFLi = Lower flammability limit of component *i* as determined using values published by the U.S. Bureau of Mines (Zabetakis, 1965), vol %. All inerts, including nitrogen, are assumed to have an infinite LFL (*e.g.*, *LFLN2* = ∞, so that *cN2/ LFLN2* = 0). LFL values for common flare vent gas components are provided in Table 1 (Appendix).

- ii. For MPGF, *LFLvg* = *LFLcz*.

- c. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring flare vent gas flow rate.
- d. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring (*i.e.*, at least once every 15- minutes), calculating, and recording the individual component concentrations present in the flare vent gas or install, operate, calibrate and maintain a monitoring system capable of continuously measuring, calculating and recording *NHVvg*.
- e. For each measurement produced by the monitoring system, the operator shall determine the 15-minute block average as the arithmetic average of all measurements made by the monitoring system within the 15-minute period.
- f. The operator must follow the calibration and maintenance procedures according to Table 2 (Appendix). Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

2. The MPGF system shall be operated with a flame present at all times when in use. Each stage of MPGF burners must be equipped with at least two pilots with a continuously lit pilot flame. The pilot flame(s) must be continuously monitored by a thermocouple or any other equivalent device used to detect the presence of a flame. The time, date and duration of any complete loss of pilot flame on any stage of MPGF burners must be recorded. Each monitoring device must be maintained or replaced at a frequency in accordance with the manufacturer's specifications.
3. When the flare is receiving regulated material, the MPGF system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. A video camera that is capable of continuously recording (*i.e.*, at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.
4. The operator of a MPGF system shall install and operate pressure monitor(s) on the main flare header, as well as a valve position indicator monitoring system for each staging valve to ensure that the MPGF operates within the range of tested conditions or within the range of the manufacturer's specifications. The pressure monitor shall meet the requirements in Table 2 (Appendix).

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

-
- ~~5. Recordkeeping Requirements: All data must be recorded and maintained for a minimum of three years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is more stringent.~~

6. Reporting Requirements

(a) The information specified in (b) and (c) below should be reported in the timeline specified by the applicable rule subpart(s) for which the MPGF will control emissions.

(b) Owners or operators should include the following information in their initial Notification of Compliance status report:

(i) Specify flare design as a pressure assisted MPGF.

(ii) All visible emission readings, *NHVCz* and/or *LFLCz* determinations, and flow rate measurements. For MPGF, exit velocity determinations do not need to be reported as the maximum permitted velocity requirements in the General Provisions at 40 CFR 60.18 and 40 CFR 63.11 are not applicable.

- (iii) All periods during the compliance determination when a complete loss of pilot flame on any stage of MPGF burners occurs.
 - (iv) All periods during the compliance determination when the pressure monitor(s) on the main flare header show the MPGF burners operating outside the range of tested conditions or outside the range of the manufacturer's specifications.
 - (v) All periods during the compliance determination when the staging valve position indicator monitoring system indicates a stage of the MPGF should not be in operation and is or when a stage of the MPGF should be in operation and is not.
- (c) The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports. These periods of excess emissions shall include:
- (i) Each 15-minute block during which there was at least one minute when regulated material was routed to the MPGF and a complete loss of pilot flame on a stage of burners occurred.
 - (ii) Periods of visible emissions events that are time and date stamped and exceed more than 5 minutes in any 2 hour consecutive period.
 - (iii) Each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*, *NHVCz* or *LFLcz*) is not met for the MPGF when regulated material is being combusted in the flare. Indicate the date and time for each period, the *NHVCz* and/or *LFLcz* operating parameter for the period and the type of monitoring system used to determine compliance with the operating parameters (*e.g.*, gas chromatograph or calorimeter).
 - (iv) Periods when the pressure monitor(s) on the main flare header show the MPGF burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the stage(s) and number of MPGF burners affected and the range of tested conditions or manufacturer's specifications.
 - (v) Periods when the staging valve position indicator monitoring system indicates a stage of the MPGF should not be in operation and is or when a stage of the MPGF should be in operation and is not. Indicate the date and time for each period, whether the stage was supposed to be open but was closed or vice versa and the stage(s) and number of MPGF burners affected.

APPENDIX

Table 1 — Individual Component Properties

<u>Component</u>	<u>Molecular Formula</u>	<u>MWi (lb/ lb mol)</u>	<u>NHVi (Btu/scf)</u>	<u>LFLi (volume %)</u>
Acetylene	C2H2	26.04	1,404	2.5
Benzene	C6H6	78.11	3,591	1.3
1,2- Butadiene	C4H6	54.09	2,794	2.0
1,3- Butadiene	C4H6	54.09	2,690	2.0
iso-Butane	C4H10	58.12	2,957	1.8
n-Butane	C4H10	58.12	2,968	1.8
cis-Butene	C4H8	56.11	2,830	1.6
iso-Butene	C4H8	56.11	2,928	1.8
trans-Butene	C4H8	56.11	2,826	1.7
Carbon Dioxide	CO2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C3H6	42.08	2,185	2.4
Ethane	C2H6	30.07	1,595	3.0
Ethylene	C2H4	28.05	1,477	2.7
Hydrogen	H2	2.02	274	4.0
Hydrogen Sulfide	H2S	34.08	587	4.0
Methane	CH4	16.04	896	5.0
MethylAcetylene	C3H4	40.06	2,088	1.7
Nitrogen	N2	28.01	0	∞
Oxygen	O2	32.00	0	∞
Pentane+ (C5+)	C5H12	72.15	3,655	1.4
Propadiene	C3H4	40.06	2,066	2.16
Propane	C3H8	44.10	2,281	2.1
Propylene	C3H6	42.08	2,150	2.4
Water	H2O	18.02	0	∞

APPENDIX

Table 2 — Accuracy and Calibration Requirements

Parameter	Accuracy requirements	Calibration requirements
Flare Vent Gas Flow Rate	<p>±20 percent of flow rate at velocities ranging from 0.1 to 1 foot per second.</p> <p>±5 percent of flow rate at velocities greater than 1 foot per second.</p>	<p>Performance evaluation biennially (every two years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale.</p> <p>Checks of all mechanical connections for leakage monthly. Visual inspections and checks of system operation every 3 months, unless the system has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.</p> <p>Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated.</p> <p>Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.</p> <p>Calibration requirements should follow manufacturer's recommendations at a minimum.</p>
Pressure	<p>±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.</p>	<p>Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation.</p> <p>Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.</p> <p>Follow the procedure in Performance Specification 9 of 40 CFR part 60 Appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate daily analysis), the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).</p>
Net Heating Value by Calorimeter	<p>±2 percent of span</p>	<p>Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation.</p> <p>Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.</p> <p>Follow the procedure in Performance Specification 9 of 40 CFR part 60 Appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate daily analysis), the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).</p>
Net Heating Value by Gas Chromatograph	<p>As specified in Performance Specification 9 of 40 CFR part 60 Appendix B.</p>	<p>Follow the procedure in Performance Specification 9 of 40 CFR part 60 Appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate daily analysis), the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).</p>

Filed Date: 4/15/16.
Accession Number: 20160415-5256.
Comments Due: 5 p.m. ET 5/6/16.
Docket Numbers: ER16-1437-000.
Applicants: 62SK 8ME LLC.
Description: § 205(d) Rate Filing: CO-TENANCY AND SHARED FACILITIES Normal to be effective 6/7/2016.

Filed Date: 4/15/16.
Accession Number: 20160415-5263.
Comments Due: 5 p.m. ET 5/6/16.

Take notice that the Commission received the following electric securities filings:

Docket Numbers: ES16-28-000.
Applicants: American Transmission Company LLC, ATC Management Inc.
Description: Application under Section 204 of the Federal Power Act for Authorization to Issue Securities of American Transmission Company LLC.

Filed Date: 4/15/16.
Accession Number: 20160415-5178.
Comments Due: 5 p.m. ET 5/6/16.

The filings are accessible in the Commission's eLibrary system by clicking on the links or querying the docket number.

Any person desiring to intervene or protest in any of the above proceedings must file in accordance with Rules 211 and 214 of the Commission's Regulations (18 CFR 385.211 and 385.214) on or before 5:00 p.m. Eastern time on the specified comment date. Protests may be considered, but intervention is necessary to become a party to the proceeding.

eFiling is encouraged. More detailed information relating to filing requirements, interventions, protests, service, and qualifying facilities filings can be found at: <http://www.ferc.gov/docs-filing/efiling/filing-req.pdf>. For other information, call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Dated: April 15, 2016.

Kimberly D. Bose,
Secretary.

[FR Doc. 2016-09225 Filed 4-20-16; 8:45 am]

BILLING CODE 6717-01-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OAR-2014-0738; FRL-9945-15-OAR]

Notice of Final Approval for the Operation of a Pressure-Assisted Multi-Point Ground Flare at Occidental Chemical Corporation

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice; final approval.

SUMMARY: This notice announces our approval of the Alternative Means of Emission Limitation (AMEL) request for the operation of a multi-point ground flare (MPGF) at Occidental Chemical Corporation's (OCC) ethylene plant in Ingleside, Texas. This approval notice specifies the operating conditions and monitoring, recordkeeping, and reporting requirements for demonstrating compliance with the AMEL request that this facility must follow. In addition, this notice finalizes a framework that facilities can follow to help expedite and streamline approval of future AMEL requests for pressure-assisted MPGF.

DATES: The AMEL request for the MPGF at OCC's ethylene plant in Ingleside, Texas, is approved and in effect on April 21, 2016.

ADDRESSES: The Environmental Protection Agency (EPA) has established a docket for this action under Docket ID No. EPA-HQ-OAR-2014-0738. All documents in the docket are listed on the <http://www.regulations.gov> Web site. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through <http://www.regulations.gov>, or in hard copy at the EPA Docket Center, EPA WJC West Building, Room Number 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room hours of operation are 8:30 a.m. to 4:30 p.m. Eastern Standard Time (EST), Monday through Friday. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air Docket is (202) 566-1742.

FOR FURTHER INFORMATION CONTACT: For questions about this final action, contact Mr. Andrew Bouchard, Sector Policies and Programs Division (E-143-01), Office of Air Quality Planning and Standards (OAQPS), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-4036; fax number: (919) 541-0246; and email address: bouchard.andrew@epa.gov.

SUPPLEMENTARY INFORMATION:

Acronyms and Abbreviations

We use multiple acronyms and terms in this notice. While this list may not be exhaustive, to ease the reading of this notice and for reference purposes, the

EPA defines the following terms and acronyms here:

- AMEL alternative means of emission limitation
- Btu/scf British thermal units per standard cubic foot
- CBI confidential business information
- CFR Code of Federal Regulations
- EPA Environmental Protection Agency
- Eqn equation
- FR Federal Register
- GC gas chromatograph
- HAP hazardous air pollutants
- LFL lower flammability limit
- LFL_{eq} combustion zone lower flammability limit
- MPGF multi-point ground flare
- NESHAP national emission standards for hazardous air pollutants
- NHV net heating value
- NHV_{cz} combustion zone net heating value
- NSPS new source performance standards
- OAQPS Office of Air Quality Planning and Standards
- OCC Occidental Chemical Corporation
- PS Performance Specification
- QA quality assurance
- QC quality control
- VOC volatile organic compounds

Organization of This Document. The information in this notice is organized as follows:

- I. Background
 - A. Summary
 - B. Regulatory Flare Requirements and OCC's AMEL Request
- II. Summary of Public Comments on OCC's AMEL Request and the Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests
 - A. OCC's AMEL Request
 - B. Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests
- III. Final Notice of Approval of OCC's AMEL Request and Required Operating Conditions
- IV. Final Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests

I. Background

A. Summary

On August 31, 2015, the EPA published an initial notification in the **Federal Register** (FR) acknowledging receipt of an AMEL approval request for the operation of an MPGF at OCC's ethylene plant in Ingleside, Texas, (see 80 FR 52426, August 31, 2015). This initial notification solicited comment on all aspects of the AMEL request and the resulting alternative operating conditions that are necessary to achieve a reduction in emissions of volatile organic compounds (VOC) and organic hazardous air pollutants (HAP) at least equivalent to the reduction in emissions required by various standards in 40 CFR parts 60, 61, and 63 that apply to emission sources that would be controlled by these pressure-assisted

MPGF. These standards point to the operating requirements for flares in the General Provisions to parts 60 and 63, respectively, to comply with the emission reduction requirements. Because pressure-assisted MPGF cannot meet the velocity requirements in the General Provisions, OCC requested an AMEL. This action provides a summary of the comments received as part of the public review process, our responses to those comments, and our approval of the AMEL request received from OCC for use of a pressure-assisted MPGF at their Ingleside, Texas, ethylene plant, along with the operating conditions they must follow for demonstrating compliance with the AMEL request.

Additionally, the August 31, 2015, FR initial notification also solicited comment on a framework for streamlining future MPGF AMEL requests that we anticipate, when followed, would afford the Agency the ability to review and approve future AMEL requests for MPGF in a more efficient and expeditious manner. This action provides a summary of comments received on the framework as part of the public review process, our responses to those comments, and finalizes a framework for streamlining future pressure-assisted MPGF AMEL requests. We note that future AMEL requests would still require a notice and an opportunity for the public to comment.

B. Regulatory Flare Requirements and OCC's AMEL Request

OCC submitted an AMEL request to the EPA on December 16, 2014, seeking to operate an MPGF for use during limited high-pressure maintenance, startup, and shutdown events, as well as emergency situations at their ethylene plant in Ingleside, Texas. In their request, OCC cited various regulatory requirements in 40 CFR parts 60, 61, and 63 that will apply to the flare waste gas streams that will be collected and routed to their pressure-assisted MPGF. OCC sought such an AMEL request because their MPGF is not designed to operate below the maximum permitted velocity requirements for flares in the General Provisions of 40 CFR parts 60 and 63. OCC provided information that the MPGF they propose to use will achieve a reduction in emissions at least equivalent to the reduction in emissions for flares complying with these General Provisions requirements (for further background information on the regulatory flare requirements and a facility's ability to request an AMEL, see 80 FR 52427–52428, August 31, 2015).

II. Summary of Public Comments on OCC's AMEL Request and the Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests

This section contains a summary of major comments and responses, and rationale for the approved MPGF operating conditions and monitoring, recordkeeping, and reporting requirements necessary to ensure the MPGF will achieve a reduction in emissions of HAP and VOC at least equivalent to the reduction in emissions of other traditional flare systems complying with the requirements in 40 CFR 60.18(b) and 40 CFR 63.11(b). This section also contains a summary of the major comments and responses received on the framework for streamlining approval of future MPGF AMEL requests and our rationale for finalizing this framework.

A. OCC's AMEL Request

Comment: Commenters stated that the LFL_{vol} equation (*i.e.*, Eqn. 2 in Section III below) should be revised so that the calculated LFL_{vol} is expressed in volume percent rather than in volume fraction.

Response: While the equation is mathematically correct with respect to calculating LFL_{vol} in volume fraction, we agree with the commenters that it should be revised to reflect the same units as the compliance metric of LFL_{vol} in volume percent. Since multiplying the volume fraction term by 100 will yield a result in units of volume percent, we have updated Eqn. 2 in Section III to reflect this consistency change.

Comment: Commenters stated that the calibration requirements in Table 2 of Section III of this notice require OCC to monitor net heating value by gas chromatograph (GC) and follow the procedure in Performance Specification (PS) 9 of 40 CFR part 60, appendix B, and that these requirements require a daily mid-level calibration check and that the EPA should change them from a daily basis to a weekly basis. Commenters stated that a weekly calibration should be allowed because operating conditions in Table 2 in Section III(1)(f) of this notice only allow the time needed to perform a daily calibration, along with other maintenance periods and instrument adjustments, to not exceed 5 percent and that a daily calibration will lead to a built-in loss of monitor downtime of almost 5 percent since it requires 1 hour in a 24-hour day (*e.g.*, 4.2 percent of the time). Commenters also requested that this monitor downtime should be calculated on a rolling 12-month basis

for compliance purposes and that the EPA clarify that the calibration and maintenance procedures conducted when the flare is not receiving regulated material be excluded from the monitor downtime calculation.

Response: The requirement to perform a daily mid-level calibration check for a GC is codified in the procedure of PS 9 of 40 CFR part 60, appendix B, and Table 2 of Section III in this notice already provides some relief with respect to the amount of analysis needed (*i.e.*, a single daily mid-level calibration check can be used (rather than triplicate analysis)) for the calibration checks on a GC. The AMEL does not require monitoring with a GC, but rather allows for the use of either a GC or a calorimeter to demonstrate compliance with the monitoring and operating requirements. Given that OCC's MPGF will handle both planned maintenance, startup and shutdown events as well as potential emergency situations, a monitoring system used to demonstrate compliance for this AMEL must be capable of producing a reliable result instantaneously, and the more frequent (*i.e.*, daily) calibrations required in PS 9 provides a high level of assurance that the GC reading will be both precise and accurate. Thus, we are not changing the requirement within PS 9 to allow less frequent (*i.e.*, weekly) calibration checks for a GC. We do understand that monitoring equipment can break down or need maintenance from time to time to continue to perform reliably. Therefore, to provide flexibility that ensures the GC is maintained properly, we are clarifying that calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation. Also, we are clarifying that monitor downtime to perform calibration and maintenance procedures may not exceed 5 percent of the time when the flare is receiving regulated material, calculated on an annual, non-rolling average basis as OCC further clarified in their comments on the AMEL request during a conference call with the EPA (see memorandum, "Meeting Record for January 12, 2016, Meeting Between the U.S. EPA and Occidental Chemical Corporation," at Docket ID No. EPA-HQ-OAR-2014-0738).

Comment: Commenters stated that the EPA should include a provision in the final AMEL to allow a small percentage of downtime (*i.e.*, 5 percent of the time the flare is receiving regulated material) for video camera maintenance and repair/replacement. One commenter asked for the EPA to add language to

clarify that the video camera requirement for monitoring visible emissions applies only when the flare is receiving regulated material.

Response: Given that the MPGFs approved in earlier AMELs, as well as OCC's MPGF, are all back-up control devices, we are clarifying that the video camera requirement for monitoring visible emissions applies only when the flare is receiving regulated material. Furthermore, while we realize that MPGFs have sufficiently tall fences built around them primarily for safety, their design does pose a potential challenge with respect to allowing a person on the ground to monitor the MPGFs for visible emissions. Given that the AMEL requests we have approved to date from The Dow Chemical Company (Dow) and ExxonMobil Chemical Company (ExxonMobil) (see 80 FR 52426, August 31, 2015), as well as this AMEL approved for OCC, all allow for permitted use of MPGF only in cases of maintenance, startup, shutdown, and emergency situations and not on a continuous basis, the time when the MPGF is not in operation should be sufficient for video camera maintenance and repair/replacement to occur. Therefore, we are not including a provision to allow any downtime for video camera maintenance and repair/replacement when the MPGF is receiving regulated material.

Comment: A few commenters suggested that the EPA clarify the language in the referenced operating conditions in Section III(2) of this notice which states: "Each stage of MPGF burners must have at least two pilots with a continuously lit pilot flame." Specifically, commenters requested that the EPA clarify that while each stage of the MPGF is equipped with a minimum of two pilots, that only one continuously lit pilot flame is needed when the stage is in operation.

Response: We disagree that it is necessary to change the operating conditions language in Section III(2) as suggested by the commenters, and we believe the requirements for the OCC AMEL approval should be consistent with the previous AMEL operating conditions published for both Dow and ExxonMobil (see 80 FR 52426, August 31, 2015). The operating conditions in Section III(2) and reporting requirements in Section III(6) of this notice are clear that the MPGF system should be equipped with a minimum of two pilots per stage and that a flame must be present at all times the stage is in use and burning regulated material. In addition, a complete loss of pilot flame for more than 1 minute in a 15-

minute period is an excess emission that must be reported.

Comment: One commenter requested that the EPA clarify the language with respect to requiring "records" in the excess emissions reporting requirements and suggested replacing the term with "periods."

Response: We disagree with changing the terminology "records" to "periods" in the excess emissions reporting requirements. Section III(6)(c) of the operating conditions below are clear that we are not requiring reporting of all records that an owner or operator may keep or that they may be required to keep as a condition of AMEL approval for a given MPGF, but rather, that the owner or operator must report the specific information in the excess emissions report.

B. Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests

Comment: One commenter stated that the framework for streamlining approval of future MPGF AMEL requests should not require information unrelated to a burner equivalency determination, information that has already been submitted to other parts of the Agency for permitting purposes, or proprietary MPGF burner design information. Specifically, the commenter stated that the EPA should remove the following information from the framework that owners or operators seeking approval of an MPGF AMEL are required to submit:

- Details of the overall emissions control scheme: Section IV(1)(b).
- MPGF capacity and operation (including number of rows (stages), number of burners and pilots per stage and staging curve): Section IV(1)(b).
- MPGF burner size and design: Section IV(1)(c) and (1)(d).
- Cross-light testing: Section IV(5) in its entirety.
- Flaring reduction considerations: Section IV(6)(a).

Another commenter stated that at Section IV(3)(a)(ii), for an engineering evaluation demonstration, once a burner of a specific type, size, and geometry has been tested on a waste gas, that burner can be considered to be proven stable and smokeless for that waste gas only. Further, the commenter states that engineering assessment and extrapolation should only be permitted under the framework where burner design and waste gas are the same as tested because any deviation in burner design or waste gas could lead to significant changes in stability or smokeless capacity.

Response: First, we note that the objective of the framework is to provide

the regulated community with a clear and concise understanding of the minimum information that must be provided to the Agency so that we can adequately evaluate an MPGF AMEL request. The information listed in the framework is necessary to evaluate whether an MPGF operates properly and controls emissions of regulated material at least equivalent to applicable regulations. Hence, information related to details of the overall emissions control scheme, MPGF capacity, operation and burner size, cross-light testing, and flaring reduction considerations are all important and necessary information to adequately make an equivalency determination. Therefore, we are not removing them from the framework.

Second, with respect to submitting information that may have been developed and submitted already for permitting purposes, we note that this framework is designed to help streamline and expedite future approvals of MPGF AMEL requests. If an owner or operator does not submit the information set forth in the framework, additional time and resources will have to be spent to evaluate the AMEL request.

Lastly, with respect to concerns about MPGF burner design and the potential for some of the information to be proprietary (e.g., geometry, tip drillings, and hole size), we note that the MPGF burner tests conducted to date indicate that flare head design (along with waste gas composition) can influence flame stability, which is one of the more important factors affecting performance of the MPGF that the Agency must consider in whether to approve an AMEL request and agree with the commenter that flare stability is affected by burner design/waste gas combination tested (see 80 FR 8023, February 13, 2015, for more details). To the extent the owner, operator or flare vendor/manufacturer considers this information to be CBI, they should note that in their MPGF AMEL request, and we will provide details on our CBI policy and procedures on how they should submit this information to the Agency after the AMEL request has been received. At a minimum, facilities should note the flare vendor and burner model name.

Comment: One commenter recommended that the framework allow flare vendors/manufacturers and owners or operators to determine and document the most appropriate burner testing durations (e.g., 5-minute screening test to determine flameout followed by three 15-minute tests at other more stable points). Another commenter suggested that for the sole purpose of flame

stability evaluation, 3 to 5 minutes is sufficient for a testing duration.

One commenter suggested that the specific requirements of the flare flame stability tests be enumerated in Section IV(4)(b) below since it references back to performance test information in Section IV(3)(a)(i).

Response: After consideration of the comments received during the comment period as well as the supplemental technical information received after the close of the comment period (see memorandum, "Meeting Record for January 7, 2016, Meeting Between the U.S. EPA and Zeeco," at Docket ID No. EPA-HQ-OAR-2014-0738), we agree with the commenters that the duration of the MPGF stability test runs in Section IV(4)(c) can be shortened from 15 minutes, but disagree with the commenters that we should allow flare vendors/manufacturers and owners or operators to determine and document the most appropriate burner testing durations. In reviewing the available test data on an MPGF where unstable test runs with constant conditions were observed, a few runs were aborted in 4 minutes or less due to instability (see memorandum, "Review of Available Test Data on Multipoint Ground Flares," at Docket ID No. EPA-HQ-OAR-2014-0738-0002). The commenters have suggested that the instability was related to the changing and decreasing heat content and composition of the fuel gas stream as the fuel gas mixture was being produced for the trial flare run. If the demonstration had instead relied upon a constant gas mixture that could have been produced in a mix tank, rather than an online mixer, than the demonstration of stability could have been done over a shorter duration. In addition, when correlating back the MPGF stability testing duration to the averaging time for a monitoring system like a GC that can be used to demonstrate compliance with the operating conditions laid out in Section III below, the total testing time of the three runs should tie back to the time it takes for one GC analysis cycle to occur (e.g., 15 minutes in duration). Therefore, based on these reasons, as well as in order to minimize emissions from the MPGF stability testing requirements, we are finalizing in Section IV(4)(c) that the duration of each individual MPGF stability test run must be a minimum of 5 minutes in duration rather than the longer period of 15 minutes in duration that was in the initial framework.

Regarding the comment to enumerate the performance test information in Section IV(4)(b) rather than cross-referencing to Section IV(3)(a)(i), we disagree that the change is necessary.

Comment: One commenter stated that in lieu of using a generic olefin gas or an olefinic gas mixture for purposes of the destruction efficiency/combustion efficiency performance demonstration specified in the framework, the framework should require the performance test to be based only on waste gas representative of the proposed flaring application, in conjunction with the specific burner type proposed for use.

Response: As discussed in Section IV(3)(a), the framework provides the owner or operator with the option to test the MPGF using a representative waste gas or a waste gas, such as an olefin gas or olefinic gas mixture, that will challenge the performance and smokeless capacity of the MPGF. Since MPGF testing is occurring prior to plant construction and startup, sufficient representative waste gas may not be available to satisfy the testing requirements specified. Therefore, we allow olefin gas or olefinic gas mixtures to be considered since they represent the olefins industry where the MPGF installations are being used and since they have been shown to challenge MPGF performance. For this reason, we disagree with the commenter that we should amend this requirement in the framework.

Comment: A few commenters suggested that the EPA allow the AMEL framework to provide approval for alternate proposed combustion parameters or on-line monitoring requirements and technology.

One commenter suggested that the framework should provide success criteria for submittal and that a clear articulation of the criteria the Agency will use to promptly approve an AMEL request is needed.

Response: As laid out in Section IV(7) below, sources should consider all the information laid out in their AMEL application and make recommendations on the type of monitoring and operating conditions necessary for the MPGF to demonstrate equivalent reductions in emissions as compared to flares complying with the requirements at 40 CFR 60.18 and 40 CFR 63.11. Additionally, we note that while the framework should provide the regulated community a blueprint for the minimum information the Agency needs to review and eventually finalize an MPGF AMEL request, the Clean Air Act requires us to provide the public with notice and opportunity to comment on the AMEL (see 80 FR 8023, February 13, 2015, and 80 FR 52426, August 31, 2015, for more details) and consider this input before any AMEL request can be formally finalized. Because of this

statutory requirement, we cannot provide any additional language for the regulated community with respect to promptly approving an AMEL request without first considering public comments regardless of whether or not all the information submitted to the Agency exactly follows the framework in Section IV below.

Comment: One commenter suggested that the framework should specify that cross-light testing is only required when every burner in the MPGF does not have a continuous pilot.

Another commenter agreed with the cross-light testing specified in the framework.

Response: An MPGF can have hundreds of burners and, when seeking an approval of an AMEL request, the owner or operator must demonstrate that the system can be operated with a flame present at all times when regulated material is routed to the flare and that the burners will light and combust this regulated material. To date, the AMEL requests for MPGF systems we have approved indicate that cross lighting will be used to light the vast majority of individual burners within a given stage, which is why this testing requirement is specified in the framework. If a future MPGF design will not use cross lighting, the owner or operator must demonstrate through testing how the burners within a stage will be lit to combust regulated material. Because this would be a different design from the MPGF that informed our development of the framework, different requirements from those specified in Section IV(5) below for the pilot flames and pilot monitoring systems may be required for such an MPGF system and these should be conveyed in the AMEL request.

Comment: One commenter suggested that a mechanism similar to the "Framework for Streamlining Approval for Future Pressure-Assisted MPGF AMEL" should also be made available for elevated flares that use pressure-assisted burners.

Response: While we understand the commenter's suggestion that the Agency clearly prescribe a path forward for evaluating non-MPGF pressure-assisted flare designs that may not be able to comply with the flare requirements of 40 CFR 60.18(b) or 40 CFR 63.11(b), this request is beyond the scope of both OCC's MPGF AMEL request and the framework for pressure-assisted MPGF.

III. Final Notice of Approval of OCC's AMEL Request and Required Operating Conditions

Based on information the EPA received from OCC and the comments

received through the public comment period, we are approving OCC's request for an AMEL and establishing operating requirements for the pressure-assisted MPGF at OCC's Ingleside, Texas, ethylene plant. The operating conditions for OCC's MPGF that will achieve a reduction in emissions at least equivalent to the reduction in emissions being controlled by a steam-assisted, air-assisted, or non-assisted flare complying with the requirements of either 40 CFR

63.11(b) or 40 CFR 60.18(b) are as follows:

(1) The MPGF system must be designed and operated such that the combustion zone gas net heating value (NHV_{cz}) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf) or the combustion zone gas lower flammability limit (LFL_{cz}) is less than or equal to 6.5 percent by volume. Owners or operators must demonstrate compliance with the NHV_{cz}

or LFL_{cz} metric by continuously complying with a 15-minute block average. Owners or operators must calculate and monitor for the NHV_{cz} or LFL_{cz} according to the following:

a) Calculation of NHV_{cz}

(i) The owner or operator shall determine NHV_{cz} from compositional analysis data by using the following equation:

$$NHV_{vg} = \sum_{i=1}^n x_i NHV_i \quad (\text{Eqn. 1})$$

Where:

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

i = Individual component in flare vent gas.

n = Number of components in flare vent gas.
 x_i = Concentration of component i in flare vent gas, volume fraction.

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

°C for "standard temperature." Table 1 summarizes component properties including net heating values.

(ii) For MPGF, $NHV_{vg} = NHV_{cz}$.

(b) Calculation of LFL_{cz}

(i) The owner or operator shall determine LFL_{cz} from compositional analysis data by using the following equation:

$$LFL_{vg} = \frac{1}{\sum_{i=1}^n \left(\frac{X_i}{LFL_i} \right)} \times 100\% \quad (\text{Eqn. 2})$$

Where:

LFL_{vg} = Lower flammability limit of flare vent gas, volume percent (vol %).

n = Number of components in the vent gas.

i = Individual component in the vent gas.

X_i = Concentration of component i in the vent gas, vol %.

LFL_i = Lower flammability limit of component i as determined using values published by the U.S. Bureau of Mines (Zabetakis, 1965), vol %. All inerts, including nitrogen, are assumed to have an infinite LFL (e.g., $LFL_{N_2} = \infty$, so that $X_{N_2}/LFL_{N_2} = 0$). LFL values for common flare vent gas components are provided in Table 1.

(ii) For MPGF, $LFL_{vg} = LFL_{cz}$.

(c) The operator of an MPGF system shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring flare vent gas flow rate.

(d) The operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring (i.e., at least once every 15 minutes), calculating, and recording the individual component concentrations present in the flare vent gas or the owner or operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously

measuring, calculating, and recording NHV_{vg} .

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

(f) The operator must follow the calibration and maintenance procedures according to Table 2. Maintenance periods, instrument adjustments, or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material.

TABLE 1—INDIVIDUAL COMPONENT PROPERTIES

Component	Molecular formula	MW _i (pounds per pound-mole)	NHV _i (British thermal units per standard cubic foot)	LFL _i (volume %)
Acetylene	C ₂ H ₂	26.04	1,404	2.5
Benzene	C ₆ H ₆	78.11	3,591	1.3
1,2-Butadiene	C ₄ H ₆	54.09	2,794	2.0
1,3-Butadiene	C ₄ H ₆	54.09	2,690	2.0
iso-Butane	C ₄ H ₁₀	58.12	2,957	1.8
n-Butane	C ₄ H ₁₀	58.12	2,968	1.8
cis-Butene	C ₄ H ₈	56.11	2,830	1.6

TABLE 1—INDIVIDUAL COMPONENT PROPERTIES—Continued

Component	Molecular formula	MW_i (pounds per pound-mole)	NHV_i (British thermal units per standard cubic foot)	LFL_i (volume %)
Iso-Butene	C_4H_8	56.11	2,928	1.8
trans-Butene	C_4H_8	56.11	2,826	1.7
Carbon Dioxide	CO_2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C_3H_6	42.08	2,185	2.4
Ethane	C_2H_6	30.07	1,595	3.0
Ethylene	C_2H_4	28.05	1,477	2.7
Hydrogen	H_2	2.02	274	4.0
Hydrogen Sulfide	H_2S	34.08	567	4.0
Methane	CH_4	16.04	896	5.0
Methyl-Acetylene	C_3H_4	40.06	2,088	1.7
Nitrogen	N_2	28.01	0	∞
Oxygen	O_2	32.00	0	∞
Pentane+ (C5+)	C_5H_{12}	72.15	3,655	1.4
Propadiene	C_3H_4	40.06	2,066	2.16
Propane	C_3H_8	44.10	2,281	2.1
Propylene	C_3H_6	42.08	2,150	2.4
Water	H_2O	18.02	0	∞

TABLE 2—ACCURACY AND CALIBRATION REQUIREMENTS

Parameter	Accuracy requirements	Calibration requirements
Flare Vent Gas Flow Rate ...	±20 percent of flow rate at velocities ranging from 0.1 to 1 foot per second. ±5 percent of flow rate at velocities greater than 1 foot per second.	Performance evaluation biennially (every 2 years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspections and checks of system operation every 3 months, unless the system has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
Pressure	±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.	Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated. Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
Net Heating Value by Calorimeter.	±2 percent of span	Calibration requirements should follow manufacturer's recommendations at a minimum. Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation. Where feasible, select a sampling location at least 2 equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least 2 equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration or emission rate occurs.

TABLE 2—ACCURACY AND CALIBRATION REQUIREMENTS—Continued

Parameter	Accuracy requirements	Calibration requirements
Net Heating Value by Gas Chromatograph.	As specified in PS 9 of 40 CFR part 60, appendix B	Follow the procedure in PS 9 of 40 CFR part 60, appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate analysis), the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).

(2) The MPGF system shall be operated with a flame present at all times when in use. Each stage of MPGF burners must have at least two pilots with a continuously lit pilot flame. The pilot flame(s) must be continuously monitored by a thermocouple or any other equivalent device used to detect the presence of a flame. The time, date, and duration of any complete loss of pilot flame on any stage of MPGF burners must be recorded. Each monitoring device must be maintained or replaced at a frequency in accordance with the manufacturer's specifications.

(3) The MPGF system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. A video camera that is capable of continuously recording (*i.e.*, at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.

(4) The operator of an MPGF system shall install and operate pressure monitor(s) on the main flare header, as well as a valve position indicator monitoring system for each staging valve to ensure that the MPGF operates within the range of tested conditions or within the range of the manufacturer's specifications. The pressure monitor shall meet the requirements in Table 2. Maintenance periods, instrument adjustments or checks to maintain precision and accuracy, and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material.

(5) Recordkeeping Requirements.

(a) All data must be recorded and maintained for a minimum of 3 years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is more stringent.

(6) Reporting Requirements.

(a) The information specified in Section III (6)(b) and (c) below should be reported in the timeline specified by the applicable rule subpart(s) for which the MPGF will control emissions.

(b) Owners or operators should include the following information in their initial Notification of Compliance status report:

(i) Specify flare design as a pressure-assisted MPGF.

(ii) All visible emission readings, NHV_{cz} and/or LFL_{cz} determinations, and flow rate measurements. For MPGF, exit velocity determinations do not need to be reported as the maximum permitted velocity requirements in the General Provisions at 40 CFR 60.18 and 40 CFR 63.11 are not applicable.

(iii) All periods during the compliance determination when a complete loss of pilot flame on any stage of MPGF burners occurs.

(iv) All periods during the compliance determination when the pressure monitor(s) on the main flare header show the MPGF burners operating outside the range of tested conditions or outside the range of the manufacturer's specifications.

(v) All periods during the compliance determination when the staging valve position indicator monitoring system indicates a stage of the MPGF should not be in operation and is or when a stage of the MPGF should be in operation and is not.

(c) The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports. These periods of excess emissions shall include:

(i) Records of each 15-minute block during which there was at least 1 minute when regulated material was routed to the MPGF and a complete loss of pilot flame on a stage of burners occurred.

(ii) Records of visible emissions events that are time and date stamped and exceed more than 5 minutes in any 2-hour consecutive period.

(iii) Records of each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*,

NHV_{cz} or LFL_{cz}) is not met for the MPGF when regulated material is being combusted in the flare. Indicate the date and time for each period, the NHV_{cz} and/or LFL_{cz} operating parameter for the period and the type of monitoring system used to determine compliance with the operating parameters (*e.g.*, gas chromatograph or calorimeter).

(iv) Records of when the pressure monitor(s) on the main flare header show the MPGF burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the stage(s) and number of MPGF burners affected and the range of tested conditions or manufacturer's specifications.

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

IV. Final Framework for Streamlining Approval of Future Pressure-Assisted MPGF AMEL Requests

We are finalizing a framework that sources may use to submit an AMEL request to the EPA in order to use an MPGF as control devices to comply with new source performance standards (NSPS) and national emission standards for hazardous air pollutants (NESHAP) under 40 CFR parts 60, 61, and 63. At a minimum, sources considering use of an MPGF as an emissions control technology should provide the EPA with the following information in its AMEL request when demonstrating MPGF equivalency:

(1) Project Scope and Background.

(a) Size and scope of plant, products produced, location of facility, and the MPGF proximity, if less than 2 miles, to the local community and schools.

(b) Details of overall emissions control scheme (*e.g.*, low pressure control scenario and high pressure control

scenario), MPGF capacity and operation (including number of rows (stages), number of burners and pilots per stage and staging curve), and how the MPGF will be used (e.g., controls routine flows, only controls flows during periods of startup, shutdown, maintenance, emergencies).

(c) Details of typical and/or anticipated waste gas compositions and profiles to be routed to the MPGF for control.

(d) MPGF burner design including type, geometry, and size.

(e) Anticipated date of startup.

(2) Regulatory Applicability.

(a) Detailed list or table of applicable NESHAP and/or NSPS, applicable standards that allow use of flares, and authority that allows the owner or operator to request an AMEL.

(3) Destruction Efficiency/Combustion Efficiency Performance Demonstration.

(a) Sources must provide a performance demonstration to the Agency that the MPGF pressure-assisted burner being proposed for use will achieve a level of control at least equivalent to the most stringent level of control required by the underlying standards (e.g., 98-percent destruction efficiency or better). Facilities can elect to do a performance test that includes a minimum of three test runs under the most challenging conditions (e.g., highest operating pressure and/or sonic velocity conditions) using passive Fourier transform infrared spectroscopy (PFTIR) testing, extractive sampling or rely on an engineering assessment. Sources must test using fuel representative of the type of waste gas the MPGF will typically burn or substitute a waste gas such as an olefin gas or olefinic gas mixture that will challenge the MPGF to achieve a high destruction efficiency smokelessly.

(i) If a performance test is conducted on the burners, a test report must be submitted to the Agency which includes at a minimum: A description of the testing, a protocol describing the test methodology used, associated test method quality assurance/quality control (QA/QC) parameters, raw field and laboratory data sheets, summary data report sheets, calibration standards, calibration curves, completed visible emissions observation forms, a calculation of the average destruction efficiency and combustion efficiency over the course of each test, the date, time and duration of the test, the waste gas composition and $NH_{V_{cz}}$ and/or LFL_{cz} the gas tested, the flowrate (at standard conditions) and velocity of the waste gas, the MPGF burner tip pressure, waste gas temperature, meteorological conditions (e.g., ambient temperature,

barometric pressure, wind speed and direction and relative humidity), and whether there were any observed flare flameouts.

(ii) If an engineering assessment is done, sources must provide to the Agency a demonstration that a proper level of destruction/combustion efficiency was obtained through prior performance testing for a similar equivalent burner type design. To support an equivalent burner assessment of destruction/combustion efficiency, sources must discuss and provide information related to design principles of burner type, burner size, burner geometry, air-fuel mixing, and the combustion principles associated with this burner that will assure smokeless operation under a variety of operating conditions. Similarly, sources must also provide details outlining why all of these factors, in concert with the waste gas that was tested in the supporting reference materials, support the conclusion that the MPGF burners being proposed for use by the source will achieve at least an equivalent level of destruction efficiency as required by the underlying applicable regulations.

(4) MPGF Stability Testing.

(a) The operation of an MPGF with a stable, lit flame is of paramount importance to continuously ensuring good flare performance; therefore, any source wishing to demonstrate equivalency for purposes of using these types of installations must conduct a stability performance test. Since flare tip design and waste gas composition have significant impact on the range of stable operation, sources should use a representative waste gas the MPGF will typically burn or a waste gas, such as an olefin or olefinic mixture, that will challenge the MPGF to perform at a high level with a stable flame as well as challenge its ability to achieve smokeless operation.

(b) Sources should first design and carry out a performance test to determine the point of flare flame instability and flameout for the MPGF burner and waste gas composition chosen to be tested. Successful, initial demonstration of stability is achieved when there is a stable, lit flame for a minimum of 5 minutes at consistent flow and waste gas composition. It is recommended, although not required, that sources determine the point of instability at sonic flow conditions or at the highest operating pressure anticipated. Any data which demonstrate instability and complete loss of flame prior to the 5-minute period must be reported along with the initial stable flame demonstration. Along with destruction efficiency and

combustion efficiency, the data elements laid out in Section IV(3)(a)(i) above should also be reported.

(c) Using the results from Section IV(4)(b) above as a starting point, sources must perform a minimum of three replicate tests at both the minimum and maximum operating conditions on at least one MPGF burner at or above the $NH_{V_{cz}}$ or at or below the LFL_{cz} determined in Section IV(4)(b). If more than one burner is tested, the spacing between the burners must be representative of the projected installation. Each test must be a minimum of 5 minutes in duration with constant flow and composition for the three runs at minimum conditions, and the three runs at the maximum conditions. The data and data elements mentioned in Section IV(4)(b) must also be reported.

(5) MPGF Cross-light Testing.

(a) Sources must design and carry out a performance test to successfully demonstrate that cross lighting of the MPGF burners will occur over the range of operating conditions (e.g., operating pressure and/or velocity (Mach) condition) for which the burners will be used. Sources may use the $NH_{V_{cz}}$ and/or LFL_{cz} established in Section IV(4) above and perform a minimum of three replicate runs at each of the operating conditions. Sources must cross-light a minimum of three burners and the spacing between the burners and location of the pilot flame must be representative of the projected installation. At a minimum, sources must report the following: A description of the testing, a protocol describing the test methodology used, associated test method QA/QC parameters, the waste gas composition and $NH_{V_{cz}}$ and/or LFL_{cz} of the gas tested, the velocity (or Mach speed ratio) of the waste gas tested, the MPGF burner tip pressure, the time, length, and duration of the test, records of whether a successful cross-light was observed over all of the burners and the length of time it took for the burners to cross-light, records of maintaining a stable flame after a successful cross-light and the duration for which this was observed, records of any smoking events during the cross-light, waste gas temperature, meteorological conditions (e.g., ambient temperature, barometric pressure, wind speed and direction, and relative humidity), and whether there were any observed flare flameouts.

(6) Flaring Reduction Considerations.

(a) Sources must make a demonstration, considering MPGF use, on whether additional flare reduction measures, including flare gas recovery, should be used and implemented.

(7) MPGF Monitoring and Operating Conditions.

(a) Based on the results of the criteria mentioned above in this section, sources must make recommendations to the Agency on the type of monitoring and operating conditions necessary for the MPGF to demonstrate equivalent reductions in emissions as compared to flares complying with the requirements at 40 CFR 60.18 and 40 CFR 63.11, taking into consideration a control scheme designed to handle highly variable flows and waste gas compositions.

We anticipate this framework will enable the Agency to review and approve future AMEL requests for MPGF installations in a more expeditious timeframe. We note, however, that future AMEL requests are still subject to public notice and comment.

Dated: April 11, 2016.
Janet G. McCabe,
Acting Assistant Administrator.
[FR Doc. 2016-08911 Filed 4-20-16; 8:45 am]
BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL-9945-38-OEI]

Privacy Act of 1974; System of Records

AGENCY: U.S. Environmental Protection Agency (EPA).

ACTION: Notice of new Privacy Act system of records.

SUMMARY: The U.S. Environmental Protection Agency's (EPA's) Office of Land and Emergency Management is giving notice that it proposes to create a new system of records pursuant to the provisions of the Privacy Act of 1974 (5 U.S.C. 552a). This system of records contains information of individuals which is collected in the course of response and environmental assessment actions, including actions taken under a variety of EPA authorities. The information maintained under this SORN is needed to support EPA's decision making process on what actions may be necessary to address potential environmental impacts at residential properties, including necessary remediation activities. This information is collected to ensure an appropriate and cohesive response to situations requiring EPA response activities and to protect the health and welfare of residents potentially affected by an environmental or public health emergency, and maintained so to be

accessible as needed for coordination of environmental response activities. This information may include individuals' contact information, information related to their address or place of residence, correspondence, and related information collected in the course of sampling and cleanup work.

DATES: Persons wishing to comment on this system of records notice must do so by May 31, 2016. If no comments are received, the system of records notice will become effective by May 31, 2016.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-2016-0100, by one of the following methods:

www.regulations.gov: Follow the online instructions for submitting comments.

Email: oei.docket@epa.gov.

Fax: 202-566-1752.

Mail: OEI Docket, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave. NW., Washington, DC 20460.

Hand Delivery: OEI Docket, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. EPA-HQ-OEI-2016-0100. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information for which disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov. The www.regulations.gov Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to EPA without going through www.regulations.gov your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact

you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information for which disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the OEI Docket, EPA/DC, EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OEI Docket is (202) 566-1752.

FOR FURTHER INFORMATION CONTACT: Terrence Ferguson, Office of Land and Emergency Management (OLEM), Office of Superfund Remediation and Technology Information (OSRTI), Mail Code 5202T, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number (202) 566-0370.

SUPPLEMENTARY INFORMATION: The U.S. Environmental Protection Agency (EPA) is creating a Privacy Act system of records to allow the agency to maintain records that are necessary to conduct environmental assessments at residential properties in order to respond to emergency situations and during environmental assessment activities conducted by EPA under many different programs including Superfund, the Resource Conservation and Recovery Act (RCRA), and the Safe Drinking Water Act (SDWA). This system of records promotes transparency, efficiency, and improved environmental and health outcomes by encompassing all records associated with EPA residential assessment work, including the database repositories, field documentation, and analytical reports. Over the course of these assessments EPA is often required to support or work closely with state and local agencies or federal agencies in responses to evaluate the health and welfare of affected communities. EPA's environmental assessment activities at residential properties include:

Appendix A

Acronym List 103

Acronym List

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

ACFM	.....	actual cubic feet per minute
AMOC	.....	alternate means of control
ARP	.....	Acid Rain Program
ASTM	.....	American Society of Testing and Materials
B/PA	.....	Beaumont/Port Arthur (nonattainment area)
CAM	.....	Compliance Assurance Monitoring
CD	.....	control device
COMS	.....	continuous opacity monitoring system
CVS	.....	closed-vent system
D/FW	.....	Dallas/Fort Worth (nonattainment area)
DR	.....	Designated Representative
ELP	.....	El Paso (nonattainment area)
EP	.....	emission point
EPA	.....	U.S. Environmental Protection Agency
EU	.....	emission unit
FCAA Amendments	.....	Federal Clean Air Act Amendments
FOP	.....	federal operating permit
GF	.....	grandfathered
gr/100 scf	.....	grains per 100 standard cubic feet
HAP	.....	hazardous air pollutant
H/G/B	.....	Houston/Galveston/Brazoria (nonattainment area)
H ₂ S	.....	hydrogen sulfide
ID No.	.....	identification number
lb/hr	.....	pound(s) per hour
MMBtu/hr	.....	Million British thermal units per hour
MRRT	.....	monitoring, recordkeeping, reporting, and testing
NA	.....	nonattainment
N/A	.....	not applicable
NADB	.....	National Allowance Data Base
NO _x	.....	nitrogen oxides
NSPS	.....	New Source Performance Standard (40 CFR Part 60)
NSR	.....	New Source Review
ORIS	.....	Office of Regulatory Information Systems
Pb	.....	lead
PBR	.....	Permit By Rule
PM	.....	particulate matter
ppmv	.....	parts per million by volume
PSD	.....	prevention of significant deterioration
RO	.....	Responsible Official
SO ₂	.....	sulfur dioxide
TCEQ	.....	Texas Commission on Environmental Quality
TSP	.....	total suspended particulate
TVP	.....	true vapor pressure
U.S.C.	.....	United States Code
VOC	.....	volatile organic compound

Appendix B

Major NSR Summary Table..... 105

Major NSR Summary Table

Permit Number: EPA-PSD-TX-1292-GHG			Issuance Date: 04/16/2014				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
NGL-1***	Thermal Oxidizer No. 1	CO ₂		41,450	III.A.1, III.B.1-4, IV.A, C, V.A-I, K-M	III.A.1, III.B.1, 2, IV.A, C-G, J, V.G, I	IV.G, V.A-C, J
		CH ₄		1.6	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
		N ₂ O		0.3	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
		CO ₂ e		41,579	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
NGL-2***	Thermal Oxidizer No. 2	CO ₂		41,450	III.A.1, III.B.1-4, IV.A, C, V.A-I, K-M	III.A.1, III.B.1, 2, IV.A, C-G, J, V.G, I	IV.G, V.A-C, J
		CH ₄		1.6	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
		N ₂ O		0.3	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
		CO ₂ e		41,579	III.A.1, IV.A, C	III.A.1, IV.A, C-G, J	IV.G
NGL-3***	NGL Emergency Flare	CO ₂		1,000	III.A.2, IV.A	III.A.2, IV.A, D-G, J	IV.G

Permit Number: EPA-PSD-TX-1292-GHG

Issuance Date: 04/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CH ₄		No Numerical Limit Established ⁽⁴⁾	III.A.2, IV.A	III.A.2, IV.A, D-G, J	IV.G
		N ₂ O		No Numerical Limit Established ⁽⁴⁾	III.A.2, IV.A	III.A.2, IV.A, D-G, J	IV.G
		CO ₂ e		1,000	III.A.2, IV.A	III.A.2, IV.A, D-G, J	IV.G
NGL-4***	NGL Cooling Tower	CO ₂		208	III.A.3	III.A.3, IV.A, D-G, J	IV.G
		CO ₂ e		208	III.A.3	III.A.3, IV.A, D-G, J	IV.G
NGL-5***	NGL Process Fugitives	CO ₂		No Numerical Limit Established ⁽⁵⁾	III.A.4, IV.B	III.A.4, IV.A, B, D-G, J	IV.G

Permit Number: EPA-PSD-TX-1292-GHG

Issuance Date: 04/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CH ₄		No Numerical Limit Established ⁽⁵⁾	III.A.4, IV.B	III.A.4, IV.A, B, D-G, J	IV.G
		CO ₂ e		No Numerical Limit Established ⁽⁵⁾	III.A.4, IV.B	III.A.4, IV.A, B, D-G, J	IV.G
NGL-10***	Emergency Generator Engine	CO ₂		34	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
		CH ₄		No Numerical Limit Established ⁽⁴⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
		N ₂ O		No Numerical Limit Established ⁽⁴⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G

Permit Number: EPA-PSD-TX-1292-GHG

Issuance Date: 04/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CO ₂ e		34	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
NGL-11 NGL-12 NGL-13 NGL-14***	Firewater Pump Engines	CO ₂		16 ⁽⁶⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
		CH ₄		No Numerical Limit Established ⁽⁴⁾⁽⁶⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
		N ₂ O		No Numerical Limit Established ⁽⁴⁾⁽⁶⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
		CO ₂ e		64 ⁽⁶⁾	III.A.5	III.A.5, IV.A, D-G, J	III.A.5, IV.G
Totals⁽⁷⁾		CO ₂		84,206			
		CH ₄		3.6			
		N ₂ O		0.6			
		CO ₂ e		84,473			

Footnotes:

1. Compliance with the annual emission limits (tons per year) is based on a 12-month rolling basis.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations, including MSS activities.
3. Global Warming Potentials (GWP): $\text{CH}_4 = 25$, $\text{N}_2\text{O} = 298$
4. No numerical limit is established as the estimated emissions are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
5. Fugitive process emissions from EPN NGL-5 are estimated to be 0.43 TPY CO_2 , 0.36 TPY of CH_4 and 9.4 TPY CO_2e . The emission limit will be a design/work practice standard as specified in the permit.
6. The GHG mass basis TPY value is for each firewater pump engine. The CO_2e TPY limit is for all 4 combined.
7. The total emissions for CH_4 and CO_2e include the PTE for process fugitive emissions of CH_4 . These totals are given for informational purposes only and do not constitute emission limits.

*** These sources have not yet been built and they are not to be included in the Title V permit at this time.

Major NSR Summary Table

Permit Number: 102482 and PSDTX1292				Issuance Date: 01/23/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
NGL-1***	NGL Thermal Oxidizer No. 1	NO _x	3.60	15.77	4, 6	4, 6, 15	4, 6
		CO	2.40	10.51	4, 6	4, 6, 15	4, 6
		VOC	2.22	9.72	4, 6, 13, 14	4, 6, 12, 13, 14, 15	4, 6, 14
		SO ₂	3.00	13.14	4, 5, 6	4, 5, 6, 15	4, 6
		SO ₃	0.19	0.82	4, 6	4, 6, 15	4, 6
		H ₂ SO ₄	0.23	1.01	4, 6	4, 6, 15	4, 6
		PM ₁₀	0.60	2.63	4, 6	4, 6, 15	4, 6
		PM _{2.5}	0.60	2.63	4, 6	4, 6, 15	4, 6
	H ₂ S	0.01	0.05	4, 5, 14	4, 5, 14, 15	4, 14	
NGL-2***	NGL Thermal Oxidizer No. 2	NO _x	3.60	15.77	4, 6	4, 6, 15	4, 6
		CO	2.40	10.51	4, 6	4, 6, 15	4, 6
		VOC	2.22	9.72	4, 6, 13, 14	4, 6, 12, 13, 14, 15	4, 6, 14
		SO ₂	3.00	13.14	4, 5, 6	4, 5, 6, 15	4, 6
		SO ₃	0.19	0.82	4, 6	4, 6, 15	4, 6
		H ₂ SO ₄	0.23	1.01	4, 6	4, 6, 15	4, 6

Permit Number: 102482 and PSDTX1292

Issuance Date: 01/23/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		PM ₁₀	0.60	2.63	4, 6	4, 6, 15	4, 6
		PM _{2.5}	0.60	2.63	4, 6	4, 6, 15	4, 6
		H ₂ S	0.01	0.05	4, 5, 14	4, 5, 14, 15	4, 14
NGL-3***	NGL Emergency Flare	NO _x	0.04	0.19	7	7, 15	
		CO	0.09	0.39	7	7, 15	
		SO ₂	0.01	0.01	7	7, 15	
NGL-4***	NGL Cooling Tower	VOC	1.80	7.89	8	8, 15	
		PM ₁₀	0.13	0.57	8	8, 15	
		PM _{2.5}	0.01	0.01	8	8, 15	
		PM	0.54	2.37	8	8, 15	
		Cl ₂	0.01	0.01			
NGL-5***	NGL Process Area Fugitives ⁽⁵⁾	VOC	0.89	3.90	9, 10	9, 10, 15	9
NGL-6***	Gasoline Storage Area Fugitives ⁽⁵⁾	VOC	0.23	1.01	9, 10	9, 10, 15	9
NGL-7***	LPG Storage Area Fugitives ⁽⁵⁾	VOC	0.18	0.77	9, 10	9, 10, 15	9
NGL-8***	NGL Barge Dock Loading Area Fugitives ⁽⁵⁾	VOC	0.08	0.37	9, 10	9, 10, 15	9

Permit Number: 102482 and PSDTX1292

Issuance Date: 01/23/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
NGL-9***	NGL Rail Car and Truck Loading Area Fugitives ⁽⁵⁾	VOC	0.11	0.49	9, 10	9, 10, 15	9
NGL-10***	NGL Emergency Generator Diesel Engine	NO _x	12.69	0.33		11	
		CO	6.87	0.18		11	
		VOC	0.85	0.02		11	
		SO ₂	0.02	0.01		11	
		PM ₁₀	0.40	0.01		11	
		PM _{2.5}	0.40	0.01		11	
NGL-11	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14		11	
		CO	2.86	0.07		11	
		VOC	1.24	0.03		11	
		SO ₂	0.01	0.01		11	
		PM ₁₀	0.17	0.01		11	
		PM _{2.5}	0.17	0.01		11	

Permit Number: 102482 and PSDTX1292

Issuance Date: 01/23/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
NGL-12	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14		11	
		CO	2.86	0.07		11	
		VOC	1.24	0.03		11	
		SO ₂	0.01	0.01		11	
		PM ₁₀	0.17	0.01		11	
		PM _{2.5}	0.17	0.01		11	
NGL-13	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14		11	
		CO	2.86	0.07		11	
		VOC	1.24	0.03		11	
		SO ₂	0.01	0.01		11	
		PM ₁₀	0.17	0.01		11	
		PM _{2.5}	0.17	0.01		11	
NGL-14***	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14		11	
		CO	2.86	0.07		11	
		VOC	1.24	0.03		11	
		SO ₂	0.01	0.01		11	

Permit Number: 102482 and PSDTX1292				Issuance Date: 01/23/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		PM ₁₀	0.17	0.01		11	
		PM _{2.5}	0.17	0.01		11	

Footnotes:

- (1) Emission point identification-either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - 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
 CO - carbon monoxide
 SO₃ - sulfur trioxide
 H₂SO₄ - sulfuric acid
 H₂S - hydrogen sulfide
 Cl₂ - chlorine
- (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.

*** These sources have not yet been built and they are not to be included in the Title V permit at this time.

Major NSR Summary Table

Permit Number: EPA-PSD-TX-1338-GHG			Issuance Date: 05/23/2014				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
CR-1, CR-1-MSS CR-2, CR-2-MSS CR-3, CR-3-MSS CR-4, CR-4-MSS CR-5, CR-5-MSS	Ethane Cracking Furnace Nos. 1-5	CO ₂		291,791 ⁽⁴⁾	III.A.1, III.B.1, 2, V.A-F, H-J	III.A.1, IV.1-4, 7, 8	IV.4, V.B, C, G
		CH ₄		40 ⁽⁴⁾	III.A.1	III.A.1, IV.1-4, 7, 8	IV.4
		N ₂ O		8 ⁽⁴⁾	III.A.1	III.A.1, IV.1-4, 7, 8	IV.4
		CO ₂ e		295,175 ⁽⁴⁾	III.A.1	III.A.1, IV.1-4, 7, 8	IV.4
CR-6 CR-7	CR Thermal Oxidizer Nos. 1 and 2	CO ₂		107,878 ⁽⁵⁾	III.A.2, III.B.1, 2, V.A-F, H-J	III.A.2, IV.1-4, 7, 8	IV.4, V.B, C, G
		CH ₄		4.6 ⁽⁵⁾	III.A.2	III.A.2, IV.1-4, 7, 8	IV.4
		N ₂ O		0.9 ⁽⁵⁾	III.A.2	III.A.2, IV.1-4, 7, 8	IV.4
		CO ₂ e		108,261 ⁽⁵⁾	III.A.2	III.A.2, IV.1-4, 7, 8	IV.4
CR-8 CR-8-MSS	CR High Pressure Flare (including MSS)	CO ₂		70,383	III.A.3	III.A.3, IV.1-4, 7, 8	IV.4

Permit Number: EPA-PSD-TX-1338-GHG

Issuance Date: 05/23/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CH ₄		3.7	III.A.3	III.A.3, IV.1-4, 7, 8	IV.4
		N ₂ O		0.7	III.A.3	III.A.3, IV.1-4, 7, 8	IV.4
		CO ₂ e		70,684	III.A.3	III.A.3, IV.1-4, 7, 8	IV.4
CR-9	CR Emergency Generator Diesel Engine	CO ₂		61	III.A.4	III.A.4, IV.1-4, 8	IV.4
		CH ₄		No Emission Limit Established ⁽⁶⁾	III.A.4	III.A.4, IV.1-4, 8	IV.4
		N ₂ O		No Emission Limit Established ⁽⁶⁾	III.A.4	III.A.4, IV.1-4, 8	IV.4
		CO ₂ e		61	III.A.4	III.A.4, IV.1-4, 8	IV.4
CR-11	CR Cooling Tower	CO ₂		668	III.A.5	III.A.5, IV.1-4, 7, 8	IV.4
		CO ₂ e		668	III.A.5	III.A.5, IV.1-4, 7, 8	IV.4
CR-12-MSS	C3/C4 Hydrogenation Regeneration Vent	CO ₂		No Emission Limit Established ⁽⁷⁾	III.A.6	III.A.6, IV.1-4, 8	IV.4

Permit Number: EPA-PSD-TX-1338-GHG

Issuance Date: 05/23/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CH ₄		No Emission Limit Established ⁽⁶⁾ , ⁽⁷⁾	III.A.6	III.A.6, IV.1-4, 8	IV.4
		CO ₂ e		No Emission Limit Established ⁽⁷⁾	III.A.6	III.A.6, IV.1-4, 8	IV.4
CR-13 CR-14 CR-15 CR-16	Fugitives	CO ₂		No Emission Limit Established ⁽⁸⁾	III.A.7	III.A.7, IV.1-4, 7, 8	IV.4
		CH ₄		No Emission Limit Established ⁽⁸⁾	III.A.7	III.A.7, IV.1-4, 7, 8	IV.4
		CO ₂ e		No Emission Limit Established ⁽⁸⁾	III.A.7	III.A.7, IV.1-4, 7, 8	IV.4
CR-19	Hydrogen Vent	CH ₄		No Emission Limit Established ⁽⁹⁾		III.A.8, IV.1-4, 8	IV.4
		CO ₂ e		No Emission Limit Established ⁽⁹⁾		III.A.8, IV.1-4, 8	IV.4

Permit Number: EPA-PSD-TX-1338-GHG				Issuance Date: 05/23/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY**	Spec. Cond.	Spec. Cond.	Spec. Cond.
	Totals ⁽¹⁰⁾	CO ₂		470,794			
		CH ₄		52.9			
		N ₂ O		9.6			
		CO ₂ e		474,976			

Footnotes:

1. Compliance with the annual emission limits (tons per year) is based on a 12-month rolling total, to be updated the last day of the following month.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): CO₂ = 1, CH₄ = 25, N₂O = 298
4. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the cracking furnaces apply to all five furnaces combined and include MSS activities noted as CR-1-MSS through CR-5-MSS. Emissions for each furnace are 58,358 TPY CO₂, 8 TPY CH₄, 1.6 TPY N₂O, and 59,035 TPY CO₂e.
5. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the thermal oxidizers apply to both thermal oxidizers combined. Emissions from each thermal oxidizer are 53,939 TPY CO₂, 2.3 TPY CH₄, 0.45 TPY N₂O, and 54,131 TPY CO₂e.
6. These values indicated as "No Emission Limit Established" are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
7. Emissions from the C3/C4 Hydrogenation Reactor Regeneration Vent are estimated at 13 TPY of CO₂ and 13 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
8. Fugitive process emissions are estimated to be 0.01 TPY CO₂, 3.15 TPY CH₄, and 79 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
9. Emissions from the venting of the hydrogen vent to the atmosphere are estimated at 1.4 TPY CH₄ and 35 TPY of CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
10. Total emissions include the PTE for fugitive emissions, and other small volume streams that vent to the atmosphere. Totals are given for informational purposes only and do not constitute emission limits.

Major NSR Summary Table

Permit Number: 107530 and PSDTX1338				Issuance Date: 05/16/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
CR-1	Ethane Cracking Furnace No. 1	NO _x	4.13	12.42	7, 21, 23	7, 21, 23, 25	21, 23
		CO	11.00	48.80	7, 21, 23	7, 21, 23, 25	21, 23
		VOC	1.48	6.49	7, 21	7, 21, 25	21
		PM	0.88	3.85	7	7, 25	
		PM ₁₀	0.88	3.85	7	7, 25	
		PM _{2.5}	0.88	3.85	7	7, 25	
		SO ₂	0.19	2.64	7, 21	7, 21, 25	21
		NH ₃	1.21	5.30	7, 21, 24	7, 21, 24, 25	21
CR-1-MSS	Ethane Cracking Furnace No. 1 - MSS	NO _x	26.00	(6)	7, 23	7, 17, 23, 25	23
		CO	43.00	(6)	7, 23	7, 17, 23, 25	23
		VOC	0.19	(6)	7	7, 17, 25	
		PM	0.29	(6)	7	7, 17, 25	
		PM ₁₀	0.29	(6)	7	7, 17, 25	
		PM _{2.5}	0.29	(6)	7	7, 17, 25	
		SO ₂	10.42	(6)	7	7, 17, 25	

Permit Number: 107530 and PSDTX1338

Issuance Date: 05/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		NH ₃	1.21	(6)	7, 24	7, 17, 24, 25	
CR-2	Ethane Cracking Furnace No. 2	NO _x	4.13	12.42	7, 21, 23	7, 21, 23, 25	21, 23
		CO	11.00	48.80	7, 21, 23	7, 21, 23, 25	21, 23
		VOC	1.48	6.49	7, 21	7, 21, 25	21
		PM	0.88	3.85	7	7, 25	
		PM ₁₀	0.88	3.85	7	7, 25	
		PM _{2.5}	0.88	3.85	7	7, 25	
		SO ₂	0.19	2.64	7, 21	7, 21, 25	21
		NH ₃	1.21	5.30	7, 21, 24	7, 21, 24, 25	21
CR-2-MSS	Ethane Cracking Furnace No. 2 - MSS	NO _x	26.00	(6)	7, 23	7, 17, 23, 25	23
		CO	43.00	(6)	7, 23	7, 17, 23, 25	23
		VOC	0.19	(6)	7	7, 17, 25	
		PM	0.29	(6)	7	7, 17, 25	
		PM ₁₀	0.29	(6)	7	7, 17, 25	
		PM _{2.5}	0.29	(6)	7	7, 17, 25	
		SO ₂	10.42	(6)	7	7, 17, 25	
		NH ₃	1.21	(6)	7, 24	7, 17, 24, 25	

Permit Number: 107530 and PSDTX1338

Issuance Date: 05/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
CR-3	Ethane Cracking Furnace No. 3	NO _x	4.13	12.42	7, 21, 23	7, 21, 23, 25	21, 23
		CO	11.00	48.80	7, 21, 23	7, 21, 23, 25	21, 23
		VOC	1.48	6.49	7, 21	7, 21, 25	21
		PM	0.88	3.85	7	7, 25	
		PM ₁₀	0.88	3.85	7	7, 25	
		PM _{2.5}	0.88	3.85	7	7, 25	
		SO ₂	0.19	2.64	7, 21	7, 21, 25	21
		NH ₃	1.21	5.30	7, 21, 24	7, 21, 24, 25	21
CR-3-MSS	Ethane Cracking Furnace No. 3 - MSS	NO _x	26.00	(6)	7, 23	7, 17, 23, 25	23
		CO	43.00	(6)	7, 23	7, 17, 23, 25	23
		VOC	0.19	(6)	7	7, 17, 25	
		PM	0.29	(6)	7	7, 17, 25	
		PM ₁₀	0.29	(6)	7	7, 17, 25	
		PM _{2.5}	0.29	(6)	7	7, 17, 25	
		SO ₂	10.42	(6)	7	7, 17, 25	
		NH ₃	1.21	(6)	7, 24	7, 17, 24, 25	
CR-4	Ethane Cracking Furnace No. 4	NO _x	4.13	12.42	7, 21, 23	7, 21, 23, 25	21, 23

Permit Number: 107530 and PSDTX1338

Issuance Date: 05/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CO	11.00	48.80	7, 21, 23	7, 21, 23, 25	21, 23
		VOC	1.48	6.49	7, 21	7, 21, 25	21
		PM	0.88	3.85	7	7, 25	
		PM ₁₀	0.88	3.85	7	7, 25	
		PM _{2.5}	0.88	3.85	7	7, 25	
		SO ₂	0.19	2.64	7, 21	7, 21, 25	21
		NH ₃	1.21	5.30	7, 21, 24	7, 21, 24, 25	21
CR-4-MSS	Ethane Cracking Furnace No. 4 - MSS	NO _x	26.00	(6)	7, 23	7, 17, 23, 25	23
		CO	43.00	(6)	7, 23	7, 17, 23, 25	23
		VOC	0.19	(6)	7	7, 17, 25	
		PM	0.29	(6)	7	7, 17, 25	
		PM ₁₀	0.29	(6)	7	7, 17, 25	
		PM _{2.5}	0.29	(6)	7	7, 17, 25	
		SO ₂	10.42	(6)	7	7, 17, 25	
		NH ₃	1.21	(6)	7, 24	7, 17, 24, 25	
CR-5	Ethane Cracking Furnace No. 5	NO _x	4.13	12.42	7, 21, 23	7, 21, 23, 25	21, 23
		CO	11.00	48.80	7, 21, 23	7, 21, 23, 25	21, 23
		VOC	1.48	6.49	7, 21	7, 21, 25	21

Permit Number: 107530 and PSDTX1338

Issuance Date: 05/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		PM	0.88	3.85	7	7, 25	
		PM ₁₀	0.88	3.85	7	7, 25	
		PM _{2.5}	0.88	3.85	7	7, 25	
		SO ₂	0.19	2.64	7, 21	7, 21, 25	21
		NH ₃	1.21	5.30	7, 21, 24	7, 21, 24, 25	21
CR-5-MSS	Ethane Cracking Furnace No. 5 - MSS	NO _x	26.00	(6)	7, 23	7, 17, 23, 25	23
		CO	43.00	(6)	7, 23	7, 17, 23, 25	23
		VOC	0.19	(6)	7	7, 17, 25	
		PM	0.29	(6)	7	7, 17, 25	
		PM ₁₀	0.29	(6)	7	7, 17, 25	
		PM _{2.5}	0.29	(6)	7	7, 17, 25	
		SO ₂	10.42	(6)	7	7, 17, 25	
		NH ₃	1.21	(6)	7, 24	7, 17, 24, 25	
CR-1, CR-2, CR-3, CR-4, CR-5	Hourly NO _x Cap for Ethane Cracking Furnaces Nos. 1 to 5	NO _x	15.13	(7)	7	7	
CR-6	CR Thermal Oxidizer No. 1	NO _x	5.10	22.34	8, 22, 23	8, 22, 23, 25	22, 23

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		CO	3.40	14.89	8, 22, 23	8, 22, 23, 25	22, 23
		VOC	2.98	13.03	4, 5, 8, 15, 22, 23	4, 5, 8, 15, 22, 23, 25	4, 5, 22, 23
		SO ₂	0.09	0.37	8, 22	8, 22, 25	22
		H ₂ SO ₄	0.01	0.04	8	8, 25	
		PM	0.85	3.72	8	8, 25	
		PM ₁₀	0.85	3.72	8	8, 25	
		PM _{2.5}	0.85	3.72	8	8, 25	
CR-7	CR Thermal Oxidizer No. 2	NO _x	5.10	22.34	8, 22, 23	8, 22, 23, 25	22, 23
		CO	3.40	14.89	8, 22, 23	8, 22, 23, 25	22, 23
		VOC	2.98	13.03	4, 5, 8, 15, 22, 23	4, 5, 8, 15, 22, 23, 25	4, 5, 22, 23
		SO ₂	0.09	0.37	8, 22	8, 22, 25	22
		H ₂ SO ₄	0.01	0.04	8	8, 25	
		PM	0.85	3.72	8	8, 25	
		PM ₁₀	0.85	3.72	8	8, 25	
		PM _{2.5}	0.85	3.72	8	8, 25	
CR-8	CR High Pressure Flare	NO _x	0.22	0.97	27	25, 27	27
		CO	0.44	1.93	27	25, 27	27

Permit Number: 107530 and PSDTX1338

Issuance Date: 05/16/2014

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		SO ₂	0.01	0.01	27	25, 27	27
CR-8-MSSa	CR High Pressure Flare - Start-up Activities	NO _x	510.60	73.53	27	17, 25, 27	27
		CO	1019.35	146.79	27	17, 25, 27	27
		VOC	939.00	135.22	5, 9, 27	5, 9, 17, 25, 27	5, 27
		SO ₂	30.12	4.34	27	17, 25, 27	27
CR-8-MSSb	CR High Pressure Flare - Shutdown Activities	NO _x	427.80	3.42	27	17, 25, 27	27
		CO	854.05	6.83	27	17, 25, 27	27
		VOC	1113.00	8.90	5, 9, 27	5, 9, 17, 25, 27	5, 27
CR-9	CR Emergency Generator Diesel Engine	NO _x	24.45	0.64		17, 25	
		CO	2.14	0.06		17, 25	
		VOC	0.54	0.01		17, 25	
		SO ₂	0.02	0.01		17, 25	
		PM	0.14	0.01		17, 25	
		PM ₁₀	0.14	0.01		17, 25	

Permit Number: 107530 and PSDTX1338

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		PM _{2.5}	0.14	0.01		17, 25	
CR-11	CR Cooling Tower	VOC	42.03	18.41	5, 11	5, 11, 25	5
		PM _{2.5}	0.006	0.03	11	11, 25	
		PM ₁₀	0.56	2.45	11	11, 25	
		PM	2.94	12.89	11	11, 25	
		Cl ₂	0.01	0.01			
CR-12-MSS	C3/C4 Hydrogenation Regeneration Vent - MSS Activities	CO	76.09	3.80		17, 25	
		VOC	2.00	0.10		17, 25	
CR-13	CR Furnace Area Fugitives (5)	VOC	0.34	1.51	5, 12, 13	5, 12, 13, 25	5, 12
		NH ₃	0.03	0.14	14	14, 25	14
CR-14	CR Charge Gas Area Fugitives (5)	VOC	0.82	3.61	5, 12, 13	5, 12, 13, 25	5, 12
CR-15	CR Recovery Area Fugitives (5)	VOC	1.35	5.91	4, 5, 12, 13	4, 5, 12, 13, 25	4, 5, 12

Permit Number: 107530 and PSDTX1338				Issuance Date: 05/16/2014			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY(4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
CR-16	CR C3+ Area Fugitives (5)	VOC	0.22	0.95	5, 12, 13	5, 12, 13, 25	5, 12
CR-17	CR Waste Treatment Area Fugitives (5)	VOC	0.18	0.77	5, 12, 13	5, 12, 13, 25	5, 12
CR-18	CR LPG and Gasoline Storage and Loading Area Fugitives (5)	VOC	0.26	1.12	5, 12, 13	5, 12, 13, 25	5, 12
CR-19	Hydrogen Vent	CO	0.04	0.03			

Footnotes:

(1) Emission point identification-either specific equipment designation or emission point number from plot plan.

(2) Specific point source name. For fugitive sources, use area name or fugitive source name.

(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

NO_x - total oxides of nitrogen

SO₂ - sulfur dioxide

PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented

PM₁₀ - 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

CO - carbon monoxide

NH₃ - ammonia

H₂SO₄ - sulfuric acid

Cl₂ - chlorine

(4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.

(5) Emission rates are estimates and are enforceable through compliance with the applicable special condition(s) and permit application representations.

(6) Annual MSS emissions for Ethane Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) are contained within the respective annual allowables for each furnace.

(7) Annual routine NOx emissions for Ethane Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) are contained within the respective annual allowables for each furnace.

US EPA ARCHIVE DOCUMENT

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

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-1292-GHG

PERMITTEE: Occidental Chemical Corporation
P.O. Box CC
Ingleside, TX 78362

FACILITY NAME: Ingleside Chemical Plant

FACILITY LOCATION: 4133 Hwy 361
Gregory, TX 78359

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. § 7470, *et. seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing an amended *Prevention of Significant Deterioration* (PSD) permit to the Occidental Chemical Corporation (OxyChem) for Greenhouse Gas (GHG) emissions. The Permit authorizes the construction of a new natural gas liquids (NGL) fractionation plant at the existing Ingleside Chemical Plant located in Gregory, Texas. This amended PSD Permit revises the PSD permit issued to OxyChem on January 10, 2014, with the revisions applicable immediately.

OxyChem is authorized to construct a new NGL fractionation plant at the existing chemical plant as described herein, in accordance with the permit application and accompanying plans, the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit in conjunction with the corresponding Texas Commission on Environmental Quality (TCEQ) PSD permit No. PSD-TX-1292. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the CAA. This PSD Permit does not relieve OxyChem of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

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


Wren Stenger, Director
Multimedia Planning and Permitting Division

4/16/14
Date

**Occidental Chemical Corporation
Ingleside Chemical Plant (PSD-TX-1292-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions**

PROJECT DESCRIPTION

Pursuant to the provisions of this permit, the facility will construct a new NGL fractionation plant at the existing Ingleside Chemical Plant in San Patricio County, Texas. The NGL fractionation plant will receive NGL by pipeline and will fractionate these liquids into commercial grade products (ethane, propane, butanes, and natural gasoline), which will be stored on-site (except for ethane, which will be routed to the pipeline without storage), and then transferred to markets by various means, including pipeline, tank trucks, rail cars, and barges. The new NGL fractionation plant will process approximately 87,000 barrels per day.

Process facilities receive NGL by pipeline and separate these liquids by distillation into four products: ethane, propane, mixed butanes, and natural gasoline (higher molecular weight hydrocarbons in the NGL after ethane, propane and butanes are removed). Distillation concentrates sulfur compounds found in the NGL feed in the mixed butanes and natural gasoline fractions. A dedicated process unit converts these sulfur compounds to disulfide oil to be blended with the natural gasoline.

Each distillation process in the NGL fractionation facility operates under pressure. Each distillation process includes a fractionation column, a reboiler to provide heat for the distillation of liquids, and a means to condense the vaporized fraction. The fractionation columns of the NGL fractionation facility use steam to supply heat to the process. Steam is supplied from both an adjacent existing natural gas fired cogeneration unit and from new steam generation facilities installed with the NGL plant. Reboilers are used on each fractionation column to exchange heat from steam with the process fluids. Steam from the thermal oxidizers and the existing cogeneration units provide heat to the reboiler, which is a non-combusting unit with no GHG emissions. The reboiler is used to vaporize process fluids in the bottom of a fractionation column. Cooling and condensing for the fractionators is supplied from re-circulating propane refrigerant and re-circulating cooling water, both supplied from new facilities to be installed at the NGL fractionation site.

Carbon dioxide and other acid gases present in the NGL feed are extracted by a re-circulating amine stream. Vent gases from regeneration of these amines are routed to a thermal oxidizer for destruction of organic compounds. Water and some aromatic hydrocarbons in the NGL feed are extracted by a re-circulating glycol stream. Vent gases from regeneration of glycol are also routed to a thermal oxidizer for destruction of organic compounds. Small amounts of liquid

waste created in the re-circulating amine and glycol streams are removed by filters and are discarded as solid wastes along with the filter media.

Sulfur-containing organic compounds present in the NGL feed are concentrated by fractionation into the materials fed to the debutanizer. Sulfur compounds present in the overhead product (mixed butanes) and bottom product (natural gasoline) from the debutanizer are converted to disulfide oils that are blended with the natural gasoline. These conversion/extraction processes create vapor discharges that are routed to the thermal oxidizers and sulfide-rich aqueous caustic streams. These sulfide-rich caustic streams are treated to convert sulfides to disulfides and then regenerated to remove the disulfide oil after which the regenerated caustic stream is recycled to butane and gasoline sulfur removal units. A small stream of sulfide caustic will be periodically removed as a liquid waste stream, which will be disposed of off-site in accordance with applicable requirements.

Stored liquid products are transferred to markets by pipeline, by tanker truck, by rail car and by barge. Propane, butane, and natural gasoline products that do not meet specifications are stored temporarily on-site until they can be reprocessed. All non-pressurized storage tanks at the site handling VOC materials with a vapor pressure greater than 0.5 psia are vented to the thermal oxidizers for control. Also, non-pressurized loading vapors from barge, rail car, and truck loading will be controlled by the thermal oxidizers.

Process wastewater from NGL fractionators and product storage, transfer, and loading facilities is collected and transferred in closed systems to a wastewater storage tank. Collected wastewater is steam-stripped to remove organic compounds with the overhead vapor routed to the thermal oxidizer. The stripped wastewater is pumped to a biological treatment system at the existing plant. Vapors from process wastewater collection drain tanks, separator vents, and the spent caustic oxidizer vent are routed to the thermal oxidizers.

Fugitive emissions of greenhouse gas (GHG) pollutants, including CO₂ and methane, may result from piping equipment leaks. The piping components that may leak include valves, flanges, pump seals, etc. OxyChem will implement the TCEQ 28MID Leak Detection and Repair (LDAR) program for the Ingleside Chemical Plant site.

The site has two existing cogeneration units (CG-1 and CG-2). The existing cogeneration units are not being modified. They are permitted by TCEQ under permit Nos. 35335 and PSD-TX-880. The cogeneration units will provide steam and energy to the new NGL fractionation facility. Currently, the excess energy produced by the cogeneration plants is sent to the grid. The cogeneration units will not have an increase in their currently permitted firing rates.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

Emission Unit Id. No.	Description
NGL-1 NGL-2	Two Thermal Oxidizers (Combustion Units) for control of waste gas streams and to supply process heat.
NGL-3	Flare (Combustion Unit) used for emergency situations
NGL-4	NGL Cooling Tower
NGL-5	NGL Process Area Fugitives
NGL-10	Emergency Generator Engine (Combustion Unit) 1,200 HP diesel-fired
NGL-11 NGL-12 NGL-13 NGL-14	Four Firewater Pump Engines (Combustion Units) 500 HP each, diesel-fired

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

As provided in 40 CFR § 52.21(r)(2), this PSD Permit shall become invalid if construction:

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

Pursuant to 40 CFR § 52.21(r)(2), EPA may extend the 18-month period upon a written satisfactory showing that an extension is justified.

B. PERMIT NOTIFICATION REQUIREMENTS

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

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

C. FACILITY OPERATION

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

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail within 48 hours of the discovery of any failure of air pollution control equipment, process equipment, or a process to operate in a normal manner that results in an increase in GHG emissions above the allowable emission limits stated in Section II of this permit.
2. Within 10 days of the restoration of normal operations after any failure described in Section I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

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

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

F. TRANSFER OF OWNERSHIP

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

G. SEVERABILITY

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

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct and operate this project in compliance with this PSD Permit, the application on which this permit is based, the TCEQ PSD Permit PSD-TX-1292 (when issued) and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the CAA.

I. ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology
bbf	Barrel
Btu	British Thermal Unit
CAA	Clean Air Act
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CGA	Cylinder Gas Audit
CH ₄	Methane
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
DRE	Destruction and Removal Efficiency
dscf	Dry Standard Cubic Foot
EPN	Emission Point Number
FR	Federal Register
GHG	Greenhouse Gas
gr	Grains
HHV	High Heating Value
hp	Horsepower
Hr	Hour
IFR	Internal Floating Roof
LDAR	Leak Detection and Repair
LHV	Lower Heating Value
Lb	Pound
MMBtu	Million British Thermal Units
MMSCFD	Million Standard Cubic Feet per Day
MSS	Maintenance, Start-up and Shutdown
NGL	Natural Gas Liquids
N ₂ O	Nitrous Oxides
NSPS	New Source Performance Standards
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
RATA	Relative Accuracy Test Audit
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TO	Thermal Oxidizer
TPY	Tons per Year
USC	United States Code

II. Annual Facility Emission Limits

Annual emissions, in tons per year (TPY) on a 12-month rolling basis, shall not exceed the following:

Table 1. Facility Emission Limits¹

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{2,3}	BACT Requirements
				TPY ²		
NGL-1	NGL-1	Thermal Oxidizer	CO ₂	41,450	41,579	Minimum firebox temperature of 1,400 °F with Flue gas exhaust < 550°F on a 365-day rolling average basis. See permit condition III.A.1.h. - i.
			CH ₄	1.6		
			N ₂ O	0.3		
NGL-2	NGL-2	Thermal Oxidizer	CO ₂	41,450	41,579	Minimum firebox temperature of 1,400 °F with Flue gas exhaust < 550°F on a 365-day rolling average basis. See permit condition III.A.1.h. - i.
			CH ₄	1.6		
			N ₂ O	0.3		
NGL-3	NGL-3	NGL Emergency Flare	CO ₂	1,000	1,000	Flare will meet the requirements of 40 CFR 60.18. See permit condition III.A.2.g.
			CH ₄	No Numerical Limit Established ⁴		
			N ₂ O	No Numerical Limit Established ⁴		
NGL-4	NGL-4	NGL Cooling Tower	CO ₂	208	208	Monitor the feed water and make-up water. See permit condition III.A.3.b. through d.
NGL-5	NGL-5	NGL Process Area Fugitives	CO ₂	No Numerical Limit Established ⁵	No Numerical Limit Established ⁵	Implementation of LDAR Program. See permit condition III.A.4.c.
			CH ₄	No Numerical Limit Established ⁵		
NGL-10	NGL-10	Emergency Generator Engine	CO ₂	34	34	Good combustion practices. See permit conditions III.A.5.b. and III.A.5.d - f.
			CH ₄	No Numerical Limit Established ⁴		
			N ₂ O	No Numerical Limit Established ⁴		
NGL-11 NGL-12 NGL-13 NGL-14	NGL-11 NGL-12 NGL-13 NGL-14	Firewater Pump Engines	CO ₂	16 ⁶	64 ⁶	Good combustion practices. See permit conditions III.A.5.c. through f.
CH ₄	No Numerical Limit Established ^{4,6}					
N ₂ O	No Numerical Limit Established ^{4,6}					
Totals⁷			CO ₂	84,206	CO₂e 84,473	
			CH ₄	3.6		
			N ₂ O	0.6		

1. Compliance with the annual emission limits (tons per year) is based on a 12-month rolling basis.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations, including MSS activities.
3. Global Warming Potentials (GWP): CH₄ = 25, N₂O = 298
4. No numerical limit is established as the estimated emissions are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
5. Fugitive process emissions from EPN NGL-5 are estimated to be 0.43 TPY CO₂, 0.36 TPY of CH₄ and 9.4 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
6. The GHG mass basis TPY value is for each firewater pump engine. The CO₂e TPY limit is for all 4 combined.
7. The total emissions for CH₄ and CO₂e include the PTE for process fugitive emissions of CH₄. These totals are given for informational purposes only and do not constitute emission limits.

III. Special Permit Conditions

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

1. Thermal Oxidizers (NGL-1 and NGL-2)

- a. The thermal oxidizer shall be designed to combust non-condensable waste gases from the NGL fractionation process and shall have a maximum fuel rating of 60 MMBtu/hr when firing natural gas and waste gas.
- b. An initial stack test on the thermal oxidizer shall be conducted to verify compliance with the emission limit specified in Table 1 and to verify the destruction and removal efficiency (DRE) of at least 99.9% for VOC.
- c. For burner combustion, natural gas fuel usage (scf) shall be monitored and recorded by the Distributive Control System (DCS) and a data historian will maintain the data.
- d. The flow rate of the oxidizer flue gas shall be measured and recorded by the DCS.
- e. Oxidizer flue gas shall be sampled and analyzed on a quarterly basis for composition. The sampled data will be used to calculate GHG emissions to demonstrate compliance with the limits specified in Table 1.
- f. Permittee shall calculate CO₂ emissions, on a monthly basis, using equation W-3 in 40 CFR Part 98, Subpart W [98.233(d)(2)].
- g. Periodic maintenance will help maintain the efficiency of the thermal oxidizer and shall be performed at a minimum annually or more often as recommended by the manufacturer specifications.
- h. The Permittee shall maintain the combustion temperature at a minimum of 1,400 °F at all times when processing waste gases in the thermal oxidizer. The Permittee shall install and maintain a temperature recording device with an accuracy of the greater of ±0.75 percent of the temperature being measured expressed in degrees Fahrenheit or ±4.5 °F. The firebox temperature shall be monitored continuously and recorded on an hourly basis during all times when processing waste gases in the thermal oxidizer.
- i. The thermal oxidizer exhaust gas temperature monitored at the exhaust stack shall be limited to less than 550°F on a 365-day rolling average basis. The thermal oxidizers' exhaust temperature shall be continuously monitored and recorded when waste gas is directed to the thermal oxidizers. The temperature measurement devices shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency.
- j. Flow and temperature measurement devices shall be calibrated, at a minimum, on a biannual basis.
- k. The Permittee shall install and operate oxygen analyzers on the exhaust stack to continuously monitor and record oxygen concentration when waste gas is directed to the thermal oxidizers. Oxygen readings shall be reduced to an averaging period of 6 minutes or less and recorded at that frequency.

- l. A relative accuracy test audit (RATA) is required once every four quarters in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.1.
- m. The oxygen analyzers shall be quality-assured at least quarterly using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2.

2. NGL Emergency Flare (NGL-3)

- a. The flare shall have a minimum destruction and removal efficiency (DRE) of 98% based on flowrate and gas composition measurements as specified in 40 CFR Part 98 Subpart W § 98.233(n).
- b. The flare shall be designed and operated for emergency use and for periods of time when both thermal oxidizers are out of service for inspection and maintenance.
- c. The flare shall only combust pipeline natural gas in the pilots during normal operations. The only emissions authorized by this permit are the combustion of natural gas during normal operation.
- d. The Permittee shall record the time, date, and duration of each emission event and each thermal oxidizer maintenance event as described in condition III.A.2.b. These records must be kept for five years following the date of each event.
- e. The flare shall be equipped with a flare gas flow meter and temperature monitor. Flow and temperature measurement devices shall be calibrated, at a minimum, on a biannual basis.
- f. CO₂ emissions shall be calculated using equation Y-1 in 40 CFR Part 98 Subpart Y, §98.253(b)(1)(ii)(A). CH₄ and N₂O emissions shall be calculated using equations Y-4 and Y-5 in 40 CFR Part 98 Subpart Y. As an alternative to the carbon content monitored required in 98.253(b)(1)(ii)(A), carbon content determined by engineering estimates, as allowed in paragraph (iii)(A) may be used with equation Y-3.
- g. The flare shall be designed and operated in accordance with 40 CFR 60.18 including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring or an approved alternate. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.

3. Cooling Tower (NGL-4)

- a. The cooling tower water supply shall be equipped with continuous pH and conductivity monitoring systems.
- b. The pH analyzer shall be calibrated on a weekly basis using 3 points. The calibration slope shall be 90% or greater and corrected for temperature. Failure to maintain an appropriate slope shall require the replacement of the pH probe or membrane.
- c. The conductivity meter shall be calibrated on a weekly basis using at least 2 calibration points bracketing the expected value for the cooling tower feed water. It shall measure the specific conductivity in $\mu\text{S}/\text{cm}$.

- d. Laboratory instruments shall be utilized when the on-line analyzers are out of service.
- e. The Permittee shall, on a monthly basis, test the cooling tower make-up water for alkalinity following Method 2320B from the *Standard Methods for the Examination of Water and Wastewater*. The bicarbonate value from this analysis will be used to calculate CO₂ emissions from the cooling tower using the following equations.

$$HCO_3 \text{ loading } \left(\frac{lb}{hr} \right) = \text{Makeup Water } \left(\frac{lb}{hr} \right) \times \text{bicarbonate (ppm)}$$

$$CO_2 \left(\frac{lb}{hr} \right) = HCO_3 \left(\frac{lb}{hr} \right) \times 44 \times \left(\frac{1}{61} \right)$$

Where:

44 = Molecular Weight of CO₂

61 = Molecular Weight of HCO₃

$$CO_2 \text{ TPM} = CO_2 \left(\frac{lb}{hr} \right) \times 2,000 \frac{lb}{ton} \times xx \text{ hr/month}$$

- f. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly.

4. NGL Process Area Fugitives (NGL-5)

- a. The Permittee shall install rupture discs beneath relief valves discharging to the atmosphere, where feasible.
- b. The Permittee shall install barrier seal systems on pumps and compressors in VOC service, where feasible.
- c. The Permittee shall implement the TCEQ 28MID Leak Detection and Repair (LDAR) program for fugitive emissions of methane.

5. Emergency Generator Engine (NGL-10) and Firewater Pump Engines (NGL-11, NGL-12, NGL-13, and NGL-14)

- a. Each emergency engine shall be diesel fired and meet the requirements of 40 CFR Part 60 Subpart III.
- b. The emergency generator shall have a power output not to exceed 1,200 HP.
- c. The firewater pump engines shall each have a power output not to exceed 500 HP.
- d. The Permittee shall change the oil and filter every 500 hours of operation or annually, whichever occurs first.
- e. The Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever occurs first and replace worn parts as needed.

- f. The Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever occurs first and replace worn parts as needed.
- g. The emission limits in Table 1 are based on each emergency engine operating 52 hours a year for maintenance and testing, excluding initial stack testing.
- h. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR Part 98 Subpart C §98.33(a)(2)(i).

B. Continuous Emissions Monitoring Systems (CEMS)

1. As an alternative to Special Condition III.A.1.i, the Permittee may install a CO₂ CEMS and volumetric stack gas flow monitoring system with an automated data acquisition and handling system for measuring and recording CO₂ emissions discharged to the atmosphere, and use these values to show compliance with the annual emission limit in Table 1.
2. The Permittee shall ensure that all required CO₂ monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
3. Permittee shall ensure compliance with the specifications and test procedures for CO₂ emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.
4. The Permittee shall meet the appropriate quality assurance requirements specified in 40 CFR Part 60, Appendix F for the CO₂ emission monitoring system.

IV. Recordkeeping Requirements

- A. In order to demonstrate compliance with the GHG emission limits, the Permittee shall monitor the following parameters and summarize the data on a calendar month basis.
 - a. Operating hours for all air emission units;
 - b. The natural gas fuel usage for all combustion units, using continuous fuel flow monitors (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate); and
 - c. Annual fuel sampling for natural gas, quarterly fuel sampling of waste gas.
- B. The Permittee shall implement the TCEQ 28MID leak detection and repair (LDAR) program and keep records of the monitoring results, as well as the repair and maintenance records.
- C. At least once per quarter, the Permittee will obtain an updated analysis of the vent gases exhausted from the thermal oxidizers. This analysis will be considered to be

- representative of the vent gas streams for the quarter during which it was taken and will be used to estimate the thermal oxidizer emissions.
- D. For each calendar month, the Permittee will calculate the 12 month rolling GHG emission rates for comparison to the emission limits in Table 1.
- E. The Permittee shall also maintain site-specific procedures for best/optimum maintenance practices and vendor-recommended operating procedures and O&M manuals for all air emission units. These procedures must be maintained on-site.
- F. The Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the facility, including, but not limited to, the following: all records or reports pertaining to significant maintenance performed on any system or device at the facility; the occurrence and duration of any startup, shutdown, or malfunction, annual tuning of heaters; all records relating to performance tests and monitoring of combustion equipment; calibrations, checks, duration of any periods during which a monitoring device is inoperative, and corresponding emission measurements; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
- G. The Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following:
1. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 2. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 3. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted; and
 4. Any failure to conduct any required source testing, monitoring, or other compliance activities.
- H. Excess emissions shall be defined as any period in which the facility emission exceeds an emission limit set forth in this permit.
- I. Excess emissions indicated by GHG emission source certification testing or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
- J. All records required by this PSD Permit shall be retained for not less than 5 years following the date of such measurements, maintenance, and reports.

V. Performance Testing Requirements:

- A. The holder of this permit shall perform an initial stack test to establish the actual quantities of CO₂ being emitted into the atmosphere from emission units NGL-1 and NGL-2, and to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂ for the thermal oxidizers.
1. Multiply the CO₂ hourly average emission rate determined under maximum operating test conditions by 8,760 hours.
 2. If the above calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
 3. If the above calculated CO₂ emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall;
 - a. Document the exceedance in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
- B. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
- C. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- D. Performance testing must be conducted using a maximum rate of operation.
- E. Fuel sampling for emission units NGL-1 and NGL-2 shall be conducted in accordance with 40 CFR Part 98 Subpart C.
- F. The Permittee shall perform initial performance demonstration testing of the thermal oxidizers at the site. The thermal oxidizers shall be operated at the maximum production rate during stack emissions testing. The Permittee shall measure CH₄ concentrations and mass rates in the thermal oxidizer inlet and exhaust streams to demonstrate a minimum destruction efficiency of 99.9% by weight at a minimum combustion chamber temperature of 1,300 °F.
- G. The Permittee shall record the combustion chamber temperature and combustion chamber set-point temperature during the performance test. These and any additional operational parameters shall be identified in the test protocol and recorded during testing. Following the performance test, the thermal oxidizers shall be operated at or above the combustion chamber set-point temperature used to demonstrate compliance, and at all times greater than 1,300 °F.
- H. For the thermal oxidizers, the sampling site and velocity traverse point shall be selected in accordance with EPA Test Method 1 or 1A, 40 CFR Part 60. The gas volumetric flow rate

shall be measured in accordance with EPA Test Method 2, 2A, 2C, 2D, 2F, 2G, or 19. The dry molecular weight shall be determined in accordance with EPA Test Method 3, 3A or 3B. The stack gas moisture shall be determined in accordance with EPA Test Method 4. These methods must be performed, as applicable, during each test run.

- I. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The Permittee must make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
- J. The Permittee must provide the EPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test.
- K. The Permittee shall provide, or cause to be provided, performance testing facilities as follows:
 1. Sampling ports adequate for test methods applicable to this facility,
 2. Safe sampling platform(s),
 3. Safe access to sampling platform(s), and
 4. Utilities for sampling and testing equipment.
- L. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.
- M. During subsequent operations, if the maximum hourly production rate is greater than that recorded during the initial test period, stack sampling shall be performed at the new operating conditions within 120 days, to verify continued performance at permitted emission limits.

VI. Agency Notifications

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

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

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

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



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT



A Permit Is Hereby Issued To
Occidental Chemical Corporation
Authorizing the Construction and Operation of
Natural Gas Fractionation Facilities
Located at **Gregory, San Patricio County, Texas**
Latitude 27° 53' 12" Longitude -97° 14' 7"

Permit: 102482 and PSDTX1292

Issuance Date : January 23, 2014

Renewal Date: January 23, 2024

For the Commission

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

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

SPECIAL CONDITIONS

Permit Numbers 102482 and PSDTX1292

1. This permit authorizes a natural gas liquids plant operated by Occidental Chemical Corporation and located at 4133 Highway 361, Gregory, San Patricio County, Texas.

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

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. 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 Program Applicability

3. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for the following: Subpart A, General Provisions; Subpart Kb, Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

These facilities shall comply with all applicable requirements of EPA regulations on NESHAPS for Source Categories promulgated for Subpart A, General Provisions, and Subpart FF, National Emission Standard for Benzene Waste Operations, in 40 CFR Part 61.

Operating Conditions

4. NGL Thermal Oxidizer No. 1 (EPN NGL-1) and NGL Thermal Oxidizer No. 2 (EPN NGL-2) shall meet the following requirements:
 - A. The thermal oxidizers shall maintain the VOC concentration in the exhaust gas less than 10 ppmv on a dry basis, corrected to 3 percent oxygen, or achieve a VOC destruction efficiency greater than 99.9 percent.

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- B. The thermal oxidizer firebox exit temperatures shall be maintained at not less than 1400°F and exhaust oxygen concentration not less than 3 percent while waste gas is being fed into the oxidizers prior to initial stack testing. After the initial stack test has been completed, the six minute average temperature and six minute average oxygen concentration shall be greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Special Condition No. 6.
- C. The thermal oxidizer exhaust temperatures shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^{\circ}\text{C}$.

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

- D. The oxygen analyzer used to satisfy Special Condition No. 6 shall continuously monitor and record oxygen concentration when waste gas is directed to the oxidizer. It shall reduce the oxygen readings to an averaging period of 6 minutes or less and record it at that frequency.

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

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

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

5. The owner or operator shall determine the total reduced sulfur concentration for each vent stream gas line directed to the thermal oxidizers (EPNs NGL-1 and NGL-2). The owner or operator shall install, operate, calibrate and maintain an instrument for continuously monitoring and recording the concentration of total reduced sulfur in the vent gas header to the thermal oxidizers.
 - A. The owner or operator shall install, operate and maintain each total reduced sulfur monitor according to Performance Specification 5 of Appendix B to part 60. The span value shall be 1.5 to 2 times the expected vent stream sulfur concentration that can be directed to the thermal oxidizers.
 - B. The owner or operator shall conduct performance evaluations of each total reduced sulfur monitor according to the requirements in § 60.13(c) and Performance Specification 5 of Appendix B to part 60.

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The owner or operator shall comply with the applicable quality assurance procedures in Appendix F to part 60 for each total reduced sulfur monitor

6. 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 NGL Thermal Oxidizer No. 1 (EPN NGL-1) and NGL Thermal Oxidizer No. 2 (EPN NGL-2) 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.

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.

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- B. Air contaminants emitted from the thermal oxidizers to be tested for include (but are not limited to) NO_x, CO, VOC, SO₂, SO₃, H₂SO₄, PM₁₀, PM_{2.5}, and O₂.
- 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 and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.
- D. The facility being sampled shall operate at maximum production rate with the thermal oxidizer temperature and oxygen concentrations being maintained at the low end of their control bands during stack emission testing. 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 maximum hourly production rate is greater than that recorded during the test period, stack sampling shall be performed at the new operating conditions within 120 days. This sampling may be waived by the TCEQ Air Section Manager for the region.

- E. Sampling ports and platform(s) shall be incorporated into the design of NGL Thermal Oxidizer No. 1 (EPN NGL-1) and NGL Thermal Oxidizer No. 2 (EPN NGL-2) according to the specifications set forth in the attachment entitled "Chapter 2, 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.
- F. 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

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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.

7. The flare shall be designed and operated in accordance with the following requirements:
 - A. The flare system 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 under normal, upset, and maintenance flow conditions.

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 or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer’s specifications
 - 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 calorimeter that provides a record of the vent stream flow and composition (Btu content) to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour.

The monitors shall be calibrated on an annual basis to meet the following accuracy specifications: the flow monitor shall be $\pm 5.0\%$, temperature

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monitor shall be $\pm 2.0\%$ at absolute temperature, and pressure monitor shall be ± 5.0 mm Hg;

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)(4) shall be recorded at least once every 15 minutes.

- E. The flare shall achieve at least 98% control of all waste gas streams directed to it.
8. The VOC associated with cooling tower water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12 month period. The emissions between VOC monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the two VOC monitored results.

Cooling water shall be sampled once a week for total dissolved solids (TDS) and once a day for conductivity. Dissolved solids in the cooling water drift are considered to be emitted as PM/PM₁₀. The data shall be obtained from samples of the cooling water returning to the cooling tower and represent the water being cooled in the tower. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. 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]. The analysis method for Conductivity shall be ASTM D1125-95A and SM2510 B.

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The permit holder may reduce the frequency of sampling for TDS by establishing a correlation between TDS and conductivity for the cooling tower as follows.

- A. For a minimum period of 6 months the cooling water shall be sampled at least once a week for TDS and conductivity. The data from the side-by-side measurements of TDS and conductivity shall be graphed and a least squares linear fit determined. The standard deviation of the calculated slope shall be determined and the slope shall be increased by two standard deviations for data quality expectation. A report including the sampling results, a data assessment, and correlation of TDS to conductivity will be maintained on site.
- B. Following the completion of the report, the cooling water shall be sampled at least daily for conductivity and the result converted to TDS from the established correlation.
- C. The correlation will be rechecked annually with a single cooling water sample analysis for TDS and conductivity. The measured TDS value shall be compared to that estimated using the measured conductivity and the established correlation. If the TDS value from the correlation does not exceed the TDS value obtained from the test method, a new correlation effort shall be conducted in accordance with paragraph A of this condition.

The cooling tower PM emissions shall be determined using the cooling tower water circulation rate, cooling tower design drift, and the measured or estimated TDS.

9. Piping, Valves, Connectors, Pumps, Agitators and Compressors, in contact with VOC - Intensive Directed Maintenance - 28MID

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

- A. The requirements of paragraphs F and G shall not apply (1) where the volatile organic compounds (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 available upon request.

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

- (1) piping and instrumentation diagram (PID);
 - (2) a written or electronic database or electronic file;
 - (3) color coding;
 - (4) a form of weatherproof identification; or
 - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, agitators, 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 available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above.
- 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.

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Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the removal of a component for repair or replacement results in an open ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 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: the line or valve must have a cap, blind flange, plug, or second valve installed; or the permit holder shall verify that there is no leakage from the open-ended line or valve. The open-ended line or valve shall be monitored on a weekly basis in accordance with the applicable NSR permit condition for fugitive emission monitoring except that a leak is defined as any VOC reading greater than background. Leaks must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve. The results of this weekly check and any corrective actions taken shall be recorded.

- 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. 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 weekly 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.

An approved 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

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compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 cannot be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured.

A directed maintenance program shall consist of the repair and maintenance of components assisted simultaneously by the use of an approved gas analyzer such that a minimum concentration of leaking VOC is obtained for each component being maintained. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be 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. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 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

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from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- I. 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.

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

$$(V_l + V_s) \times 100 / V_t = V_p$$

Where:

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

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

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

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

- K. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
 - L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard, or an applicable National Emission Standard for Hazardous Air Pollutants and does not constitute approval of alternative standards for these regulations.
10. In addition to the weekly physical inspection required by Item E of Special Condition 9, all accessible connectors in gas/vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Items F thru J of Special Condition 9. (28CNTQ)
- A. Connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.

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

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

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

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

Where:

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

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

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

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

11. The emergency diesel engines (EPNs NGL-10, NGL-11, NGL-12, NGL-13, and NLG-14) shall be fired with ultra-low sulfur diesel (sulfur content no greater than 15 ppmw). Each engine shall be fired no more than 52 hours per year. The NGL Emergency Generator Diesel Engine (EPN NGL-10) shall not be tested at the same time as the NGL Firewater Pump Diesel Engines (EPNs NGL-11 to NGL-14).
12. Storage tanks D-3870A, D-3870B, and D-3872 (Facility ID Nos. [FINs] D-3870A, D-3870B, and D-3872) are subject to the following requirements:
- A. The tanks are limited to storing natural gasoline and natural gasoline slops.
- B. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum. Storage tanks must be equipped with permanent submerged fill pipes.
- C. The permit holder shall maintain an emissions record which includes calculated emissions of VOC from all storage tanks during the previous calendar month and the past consecutive 12 month period. The record

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shall include tank identification number, control method used, tank capacity in gallons, name of the material stored, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures.

Emissions for tanks shall be calculated using: the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks."

- D. The tanks shall be routed to the thermal oxidizers at all times.
13. All vapors associated with the loading of barges with products having a vapor pressure greater than or equal to 0.5 psia shall be routed through a vacuum-assisted collection system to one or both of the thermal oxidizers (EPNs NGL-1 and NGL-2) as specified below:
- A. Non-inert barges shall not be loaded unless the vapor collection system is properly connected and the entire collection system is working as designed.
 - B. The vacuum-assisted system shall be designed to provide a minimum vacuum of 1.0 inch of water while connected to non-inert barges being loaded.
 - C. A pressure measurement device shall be installed as close as possible to the vessel's vapor return port to continuously monitor and record the vacuum while loading is taking place. The monitoring device shall be accurate to, and shall be calibrated at least annually in accordance with, the manufacturer's specifications. Vacuum data shall be monitored and recorded at least once every minute during the loading process.
 - D. Quality-assured (or valid) data must be generated when barge loading is occurring. 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 barge loading is occurring over the previous rolling 12-month period. The measurements missed shall be estimated using

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engineering judgment and the methods used recorded.

- E. Loading of non-inert barges shall comply with Special Condition 13.B at all times except for normal system response times during loading transition periods in which the minimum vacuum, as specified in Special Condition 13.B, is being created in the barge. Loading transition periods include initial loading connection and the connection of additional vessels to the vacuum system.
 - F. After loading of product having a vapor pressure greater than 0.5 psia has been completed, the VOC loading vapors contained in the onshore vapor return lines shall be blocked in or displaced with ambient air, nitrogen, natural gas, or a mixture of natural gas and ambient air or nitrogen. After displacement of the loading vapors is completed, the vapor return lines shall be isolated from the natural gas supply lines until the next displacement of loading vapors following the next vessel loading event.
14. The following requirements apply to capture systems for NGL Thermal Oxidizer No. 1 (EPN NGL-1) and NGL Thermal Oxidizer No. 2 (EPN NGL-2):
- A. If used to control pollutants other than particulate, either:
 - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or
 - (2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.
 - B. The control device shall not have a bypass; or
- If there is a bypass for the control device, comply with either of the following requirements:
- (1) Install a flow indicator that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that if opened would allow a vent stream to bypass the control

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device and be emitted, either directly or indirectly, to the atmosphere; or

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

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device.

- C. The date and results of each inspection performed shall be recorded. If the results of any inspection are not satisfactory, the deficiencies shall be recorded and the permit holder shall promptly take necessary corrective action, recording each action with the date completed.

Recordkeeping Requirements

15. The permit holder shall maintain the following records electronically or in hard copy format for at least five years. These records shall be used to demonstrate compliance with the Special Conditions and the limits specified in the MAERT:
 - A. Recordkeeping requirements associated with the federal requirements listed in Special Condition 3;
 - B. Thermal oxidizer records required by Special Condition 4;
 - C. Total sulfur content records required by Special Condition 5;
 - D. Stack sampling records required by Special Condition 6;
 - E. Pilot flame monitoring records, flow rate records, and calorimeter records required by Special Condition 7;
 - F. Cooling tower VOC, total dissolved solids, and conductivity monitoring records required by Special Condition 8;
 - G. Fugitive monitoring records required by Special Conditions 9 and 10;

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- H. Storage tank emission records required by Special Condition 12;
- I. Vacuum loading records required by Special Condition 13; and
- J. Compliance assurance monitoring records required by Special Condition 14.

Dated January 23, 2014

Emission Sources - Maximum Allowable Emission Rates

Permit Numbers 102482 and PSDTX1292

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)
NGL-1	NGL Thermal Oxidizer No. 1	NO _x	3.60	15.77
		CO	2.40	10.51
		VOC	2.22	9.72
		SO ₂	3.00	13.14
		SO ₃	0.19	0.82
		H ₂ SO ₄	0.23	1.01
		PM ₁₀	0.60	2.63
		PM _{2.5}	0.60	2.63
		H ₂ S	0.01	0.05
NGL-2	NGL Thermal Oxidizer No. 1	NO _x	3.60	15.77
		CO	2.40	10.51
		VOC	2.22	9.72
		SO ₂	3.00	13.14
		SO ₃	0.19	0.82
		H ₂ SO ₄	0.23	1.01
		PM ₁₀	0.60	2.63
		PM _{2.5}	0.60	2.63
		H ₂ S	0.01	0.05
NGL-3	NGL Emergency Flare	NO _x	0.04	0.19
		CO	0.09	0.39
		SO ₂	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)
NGL-4	NGL Cooling Tower	VOC	1.80	7.89
		PM ₁₀	0.13	0.57
		PM _{2.5}	0.01	0.01
		PM	0.54	2.37
		Cl ₂	0.01	0.01
NGL-5	NGL Process Area Fugitives (5)	VOC	0.89	3.90
NGL-6	Gasoline Storage Area Fugitives (5)	VOC	0.23	1.01
NGL-7	LPG Storage Area Fugitives (5)	VOC	0.18	0.77
NGL-8	NGL Barge Dock Loading Area Fugitives (5)	VOC	0.08	0.37
NGL-9	NGL Rail Car and Truck Loading Area Fugitives (5)	VOC	0.11	0.49
NGL-10	NGL Emergency Generator Diesel Engine	NO _x	12.69	0.33
		CO	6.87	0.18
		VOC	0.85	0.02
		SO ₂	0.02	0.01
		PM ₁₀	0.40	0.01
		PM _{2.5}	0.40	0.01
NGL-11	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14
		CO	2.86	0.07
		VOC	1.24	0.03
		SO ₂	0.01	0.01
		PM ₁₀	0.17	0.01
		PM _{2.5}	0.17	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)
NGL-12	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14
		CO	2.86	0.07
		VOC	1.24	0.03
		SO ₂	0.01	0.01
		PM ₁₀	0.17	0.01
		PM _{2.5}	0.17	0.01
NGL-13	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14
		CO	2.86	0.07
		VOC	1.24	0.03
		SO ₂	0.01	0.01
		PM ₁₀	0.17	0.01
		PM _{2.5}	0.17	0.01
NGL-14	NGL Firewater Pump Diesel Engine	NO _x	5.29	0.14
		CO	2.86	0.07
		VOC	1.24	0.03
		SO ₂	0.01	0.01
		PM ₁₀	0.17	0.01
		PM _{2.5}	0.17	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
- SO₂ - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
- PM₁₀ - 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
- CO - carbon monoxide
- SO₃ - sulfur trioxide
- H₂SO₄ - sulfuric acid
- H₂S - hydrogen sulfide
- Cl₂ - chlorine
- (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.

Emission Sources - Maximum Allowable Emission Rates

Date: January 23, 2014

US EPA ARCHIVE DOCUMENT

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

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6

PSD PERMIT NUMBER: PSD-TX-1338-GHG

PERMITTEE: Occidental Chemical Corporation
P.O. Box CC
Ingleside, Texas 78362

FACILITY NAME: Occidental Chemical Corporation
Ingleside Chemical Plant

FACILITY LOCATION: 4133 Hwy 361
Gregory, Texas 78359

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, et. Seq.), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, and the Federal Implementation Plan at 40 CFR § 52.2305 (effective May 1, 2011 and published at 76 FR 25178), the U.S. Environmental Protection Agency, Region 6 is issuing a Prevention of Significant Deterioration (PSD) permit to Occidental Chemical Corporation (OxyChem) for Greenhouse Gas (GHG) emissions. The Permit applies to the addition of a new ethylene production unit consisting of five ethane cracking furnaces and recovery equipment at its Ingleside Chemical Plant located near Gregory, Texas.

OxyChem is authorized to construct the new ethylene production unit as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 40 CFR § 52.21, and other terms and conditions set forth in this PSD permit. Failure to comply with any condition or term set forth in this PSD Permit may result in enforcement action pursuant to Section 113 of the Clean Air Act (CAA). This PSD Permit does not relieve OxyChem of the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 72 through 75, and 98) or other federal and state requirements (including the state PSD program that remains under approval at 40 CFR § 52.2303).

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



Wren Stenger, Director
Multimedia Planning and Permitting Division

5/23/14
Date

**Occidental Chemical Corporation (PSD-TX-1338-GHG)
Prevention of Significant Deterioration Permit
For Greenhouse Gas Emissions
Final Permit Conditions**

PROJECT DESCRIPTION

Occidental Chemical Corporation (OxyChem) is proposing to construct and operate a new 1.5 billion pound per year Ethylene Plant at its existing site near Ingleside, Texas on land immediately adjacent to the existing Vinyl Chloride Monomer (VCM) Plant. The new Ethylene Plant will receive ethane feed from a planned Natural Gas Liquids (NGL) Fractionation Plant to be constructed on adjacent property or by pipeline. The Ethylene Plant will produce market grade ethylene which will be transported by pipeline as feed material to the existing VCM Plant or to other markets. Other products produced by the Ethylene Plant include fuel gas, mixed C₃ and C₄ hydrocarbon streams, pyrolysis gasoline, and other light hydrocarbon streams.

EQUIPMENT LIST

The following devices are subject to this GHG PSD permit.

FIN	EPN	Description
CR-1 CR-2 CR-3 CR-4 CR-5	CR-1, CR-1-MSS CR-2, CR-2-MSS CR-3, CR-3-MSS CR-4, CR-4-MSS CR-5, CR-5-MSS	Ethane Cracking Furnace Nos. 1-5. Each furnace has a maximum design heat input rate of 275 MMBtu/hr and will be equipped with a selective catalytic reduction (SCR) system and waste heat recovery.
CR-6 CR-7	CR-6 CR-7	CR Thermal Oxidizer Nos. 1 and 2. Each oxidizer has a maximum design heat input rate of 85 MMBtu/hr and will be equipped with waste heat recovery.
CR-8	CR-8, CR-8-MSS	CR High Pressure Flare. This ground flare is designed for startup, shutdown and emergency service only.
CR-9	CR-9	CR Emergency Generator Diesel Engine (2,206 HP)
CR-11	CR-11	CR Cooling Tower
CR-12-MSS	CR-12-MSS	C ₃ /C ₄ Hydrogenation Regeneration Vent
CR-13	CR-13	CR Furnace Area Fugitives
CR-14	CR-14	CR Charge Gas Area Fugitives
CR-15	CR-15	CR Recovery Area Fugitives
CR-16	CR-16	CR C ₃ + Area Fugitives
CR-19	CR-19	Hydrogen Vent

I. GENERAL PERMIT CONDITIONS

A. PERMIT EXPIRATION

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

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

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

B. PERMIT NOTIFICATION REQUIREMENTS

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

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

C. FACILITY OPERATION

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

D. MALFUNCTION REPORTING

1. Permittee shall notify EPA by mail, or other means identified by EPA, within 48 hours following the discovery of any failure of air pollution control equipment,

process equipment or of a process to operate in a normal manner which results in an increase in GHG emissions above the allowable emission limits stated in Section II and III of this permit.

2. Within 10 days of the discovery of any GHG emissions above the allowable emission limits resulting from malfunctions as described in I.D.1., Permittee shall provide a written supplement to the initial notification that includes a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section II and III, and the methods utilized to mitigate emissions and restore normal operations.
3. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

E. RIGHT OF ENTRY

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

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

F. TRANSFER OF OWNERSHIP

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

G. SEVERABILITY

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

H. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

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

I. ACRONYMS AND ABBREVIATIONS

AVO	Auditory, Visual and Olfactory
BACT	Best Available Control Technology
C3+	Hydrocarbon with Three or More Carbon Atoms
CAA	Clean Air Act
CC	Carbon Content
CCS	Carbon Capture and Sequestration
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH ₄	Methane
CO ₂	Carbon Dioxide
CO _{2e}	Carbon Dioxide Equivalent
dscf	Dry Standard Cubic Foot
EF	Emission Factor
EPN	Emission Point Number
FIN	Facility Identification Number
FR	Federal Register
GCV	Gross Calorific Value
GHG	Greenhouse Gas
gr	Grains
GWP	Global Warming Potential
HHV	High Heating Value
HP	Horsepower
hr	Hour
HRSG	Heat Recovery Steam Generating
LAER	Lowest Achievable Emission Rate
lb	Pound
LDAR	Leak Detection and Repair
LHV	Lower Heating Value
MMBtu	Million British Thermal Units
MSS	Maintenance, Start-up and Shutdown
MW	Megawatts
N ₂ O	Nitrous Oxides
NSPS	New Source Performance Standards
ppmvd	Parts per Million Volume, Dry
PSD	Prevention of Significant Deterioration
QA/QC	Quality Assurance and/or Quality Control
SCFH	Standard Cubic Feet per Hour
SCR	Selective Catalytic Reduction
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TOC	Total Organic Carbon
TPY	Tons per Year
USC	United States Code
VOC	Volatile Organic Compound

II. ANNUAL EMISSION LIMITS

Annual emissions, in tons per year (TPY) on a 12-month rolling total, shall not exceed the following:

Table 1. Annual Emission Limits¹

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{2,3}	BACT Requirements
				TPY ²		
CR-1 CR-2 CR-3 CR-4 CR-5	CR-1, CR-1-MSS CR-2, CR-2-MSS CR-3, CR-3-MSS CR-4, CR-4-MSS CR-5, CR-5-MSS	Ethane Cracking Furnace Nos. 1-5	CO ₂	291,791 ⁴	295,175 ⁴	0.39 tons CO ₂ e/ton ethylene produced and furnace gas exhaust temperature ≤ 340 °F on a 12-month rolling average. See permit conditions III.A.1.j. and o.
			CH ₄	40 ⁴		
			N ₂ O	8 ⁴		
CR-6 CR-7	CR-6 CR-7	CR Thermal Oxidizer Nos. 1 and 2	CO ₂	107,878 ⁵	108,261 ⁵	Minimum firebox temperature of 1,300 °F with Flue gas exhaust < 500°F on a 12-month rolling average basis. See permit condition III.A.2.f. and g.
			CH ₄	4.6 ⁵		
			N ₂ O	0.9 ⁵		
CR-8 CR-8- MSS	CR-8 CR-8-MSS	CR High Pressure Flare (including MSS)	CO ₂	70,383	70,684	Flare will meet the requirements of 40 CFR 60.18. See permit conditions III.A.3.h.
			CH ₄	3.7		
			N ₂ O	0.7		
CR-9	CR-9	CR Emergency Generator Diesel Engine	CO ₂	61	61	Use of good operating and maintenance practices. See permit condition III.A.4.
			CH ₄	No Emission Limit Established ⁶		
			N ₂ O	No Emission Limit Established ⁶		
CR-11	CR-11	CR Cooling Tower	CO ₂	668	668	Monitor the feed water and make-up water. See permit condition III.A.5.
CR-12- MSS	CR-12-MSS	C ₃ /C ₄ Hydrogenation Regeneration Vent	CO ₂	No Emission Limit Established ⁷	No Emission Limit Established ⁷	Proper reactor design and good operating practices. See permit condition III.A.6.
			CH ₄	No Emission Limit Established ^{6,7}		
CR-13 CR-14 CR-15 CR-16	CR-13 CR-14 CR-15 CR-16	Fugitives	CO ₂	No Emission Limit Established ⁸	No Emission Limit Established ⁸	Implementation of effective LDAR program. See permit condition III.A.7.
			CH ₄	No Emission Limit Established ⁸		

FIN	EPN	Description	GHG Mass Basis		TPY CO ₂ e ^{2,3}	BACT Requirements
				TPY ²		
CR-19	CR-19	Hydrogen Vent	CH ₄	No Emission Limit Established ⁹	No Emission Limit Established ⁹	Venting hydrogen to the atmosphere creates the lowest environmental impact. See permit condition III.A.8.
Totals ¹⁰			CO ₂	470,794	474,976	
			CH ₄	52.9		
			N ₂ O	9.6		

1. Compliance with the annual emission limits (tons per year) is based on a 12-month rolling total, to be updated the last day of the following month.
2. The TPY emission limits specified in this table are not to be exceeded for this facility and include emissions from the facility during all operations and include MSS activities.
3. Global Warming Potentials (GWP): CO₂ = 1, CH₄ = 25, N₂O = 298
4. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the cracking furnaces apply to all five furnaces combined and include MSS activities noted as CR-1-MSS through CR-5-MSS. Emissions for each furnace are 58,358 TPY CO₂, 8 TPY CH₄, 1.6 TPY N₂O, and 59,035 TPY CO₂e.
5. The GHG Mass Basis TPY limit and the CO₂e TPY limit for the thermal oxidizers apply to both thermal oxidizers combined. Emissions from each thermal oxidizer are 53,939 TPY CO₂, 2.3 TPY CH₄, 0.45 TPY N₂O, and 54,131 TPY CO₂e.
6. These values indicated as "No Emission Limit Established" are less than 0.01 TPY with appropriate rounding. The emission limit will be a design/work practice standard as specified in the permit.
7. Emissions from the C₃/C₄ Hydrogenation Reactor Regeneration Vent are estimated at 13 TPY of CO₂ and 13 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
8. Fugitive process emissions are estimated to be 0.01 TPY CO₂, 3.15 TPY CH₄, and 79 TPY CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
9. Emissions from the venting of the hydrogen vent to the atmosphere are estimated at 1.4 TPY CH₄ and 35 TPY of CO₂e. The emission limit will be a design/work practice standard as specified in the permit.
10. Total emissions include the PTE for fugitive emissions, and other small volume streams that vent to the atmosphere. Totals are given for informational purposes only and do not constitute emission limits.

III. SPECIAL PERMIT CONDITIONS

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

1. Ethane Cracking Furnace Nos. 1-5 (EPNs: CR-1, CR-2, CR-3, CR-4 and CR-5) and Ethane Cracking Furnaces' MSS Activities (EPNs: CR-1-MSS, CR-2-MSS, CR-3-MSS, CR-4-MSS and CR-5-MSS)
 - a. The ethane cracking furnaces shall combust hydrogen rich vent gas (fuel gas) and/or pipeline quality natural gas. Each furnace shall not exceed a one-hour heat input of 275 MMBtu/hr (HHV) per furnace.
 - b. The ethane cracking furnaces identified in this permit shall have fuel metering for the fuel gas and natural gas (a group of equipment can utilize a common fuel flow meter, as long as actual fuel usage is allocated to the individual equipment based upon actual operating hours and maximum firing rate), and the Permittee shall:
 - i. Continuously measure and record the fuel flow to the ethane cracking furnaces and provide the capability to totalize the fuel flow. This may be done using a dedicated device or a computer system that collects, sums and stores electronic data from continuous fuel flow meters.
 - ii. Record the total fuel amount combusted monthly.
 - c. Permittee shall calibrate and perform preventative maintenance check of the fuel gas flow meters and document annually.
 - d. Permittee shall install, operate, and maintain an O₂ analyzer on the furnaces (EPNs: CR-1, CR-2, CR-3, CR-4, and CR-5). Oxygen concentration shall be a maximum of 10 mole % (dry) during normal operations, not including commissioning, startup, shutdown, decoke and hot steam standby.
 - e. Oxygen analyzers shall continuously monitor and record oxygen concentration in the furnaces (EPNs: CR-1, CR-2, CR-3, CR-4, and CR-5). It shall reduce the oxygen readings to an averaging period of 15 minutes or less and record it hourly.
 - f. A relative accuracy test audit (RATA) is required once every four quarters in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.1.
 - g. The oxygen analyzers shall be quality-assured at least quarterly using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2 except during quarters when a RATA is performed.
 - h. The Permittee shall perform a visual inspection of the furnace to identify sources of air leaks when the O₂ analyzer indicates an oxygen concentration greater than 10% as stated in III A.1.d.

- i. A visual inspection of the burners during operation shall be performed weekly. A visual inspection of the burner during furnace shutdown will occur during each planned shutdown.
 - j. The furnaces will be equipped with waste heat recovery. Permittee shall continuously monitor and record the furnace gas exhaust temperature hourly and limit the temperature to less than or equal to 340 °F on a 12-month rolling average basis. This stack temperature is for normal operations and does not include commissioning, startup, shutdown, hot steam standby and decoking operations.
 - k. Exceedance of the temperature limit specified in III.A.1.j. shall require a wash of the convection section of the furnace that is out of compliance with the temperature requirement.
 - l. The Permittee shall monitor the furnace for coke buildup and perform a decoke when needed.
 - m. The furnace coils shall be decoked with the furnace discharge being routed to the furnace firebox.
 - n. Each ethane cracking furnace shall be equipped with a CO₂ CEMS.
 - o. The furnaces shall meet an output based BACT limit of 0.39 tons CO₂e/ton of ethylene produced on a 12-month rolling average including MSS.
 - p. Compliance with the Annual Emission Limit for ethane cracking furnaces shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR § 98.33(a)(3)(iii) or values for CO₂ emissions as determined by the CO₂ CEMS.
 - q. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling basis to be updated by the last day of the following month. Permittee shall determine compliance with the CH₄ and N₂O emissions limits contained in this section using the default CH₄ and N₂O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the HHV (for natural gas and/or fuel gas), converted to short tons.
 - r. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (78 FR 71904) or values for CO₂ emissions as determined by the CO₂ CEMS.
 - s. The record shall be updated by the last day of the following month.
2. Thermal Oxidizer Nos. 1 and 2 (EPNs: CR-6 and CR-7)
 - a. The thermal oxidizers shall be designed to combust non-condensable waste gases from the Ethylene Plant and shall each have a maximum fuel rating of 85 MMBtu/hr when firing natural gas and waste gas

- b. For burner combustion, natural gas fuel usage (scf) shall be monitored and recorded.
- c. The flow rate of the oxidizer flue gas shall be measured and recorded. The CO₂ CEMS data as required in III.A.2.d will be used to calculate GHG emissions to demonstrate compliance with the limits specified in Table 1.
- d. Permittee shall install a CO₂ CEMS on each thermal oxidizer.
- e. Periodic maintenance will help maintain the efficiency of the thermal oxidizer and shall be performed at a minimum annually or more often as recommended by the manufacturer specifications.
- f. The Permittee shall maintain the combustion temperature at a minimum of 1,300 °F at all times when processing waste gases in the thermal oxidizer. The Permittee shall install and maintain a temperature recording device with an accuracy of the greater of ±0.75 percent of the temperature being measured expressed in degrees Fahrenheit or 4.5 °F. The firebox temperature shall be monitored continuously and recorded on an hourly basis during all times when processing waste gases in the thermal oxidizer.
- g. The thermal oxidizers will be equipped with waste heat recovery. The thermal oxidizer exhaust gas temperature monitored at the exhaust stack shall be limited to less than 500 °F on a 12-month rolling average basis. The thermal oxidizers' exhaust temperature shall be continuously monitored and recorded when waste gas is directed to the thermal oxidizers. The temperature measurement devices shall reduce the temperature readings to an averaging period of six minutes or less and record it at that frequency.
- h. Temperature measurement devices shall be calibrated, at a minimum, on a biannual basis.
- i. The Permittee shall install and operate oxygen analyzers on the exhaust stack to continuously monitor and record oxygen concentration when waste gas is directed to the thermal oxidizers. Oxygen concentration shall be a maximum of 10 mole % (dry) during normal operations, not including commissioning, startup, and shutdown. Oxygen readings shall be reduced to an averaging period of six minutes or less and recorded at that frequency.
- j. A relative accuracy test audit (RATA) of the stack O₂ analyzer is required once every four quarters in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.1.
- k. The oxygen analyzers shall be quality-assured at least quarterly using cylinder gas audits (CGAs) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, § 5.1.2 except during quarters when a RATA is performed.
- l. Compliance with the Annual Emission Limit for thermal oxidizers shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with.

40 CFR § 98.33(a)(3)(iii) or values for CO₂ emissions as determined by the CO₂ CEMS..

- m. Permittee shall calculate the CH₄ and N₂O emissions on a 12-month rolling basis to be updated by the last day of the following month. Permittee shall determine compliance with the CH₄ and N₂O emissions limits contained in this section using the default CH₄ and N₂O emission factors contained in Table C-2 and equation C-9a of 40 CFR Part 98 and the HHV (for natural gas and/or fuel gas), converted to short tons.
- n. Permittee shall calculate the CO₂e emissions on a 12-month rolling basis, based on the procedures and Global Warming Potentials (GWP) contained in Greenhouse Gas Regulations, 40 CFR Part 98, Subpart A, Table A-1, as published on November 29, 2013 (78 FR 71904). The record shall be updated by the last day of the following month or values for CO₂ emissions as determined by the CO₂ CEMS.

3. High Pressure Flare (EPN: CR-8) and CR High Pressure Flare's MSS Activities (EPNs: CR-8-MSS)

- a. The high pressure flare shall have a minimum destruction and removal efficiency (DRE) of 98% for the C₄+ VOC waste gas portions and a minimum DRE of 99% for the C₁-C₃ VOC waste gas portions.
- b. The flare is designed for control of startup and shutdown activities and upset conditions.
- c. The flare shall only combust pipeline natural gas in the pilots during normal operations.
- d. The Permittee shall continuously monitor and record the pressure of the flare system header.
- e. The Permittee shall continuously monitor and record the flow to the flare through a flow monitoring system.
- f. Permittee must record the time, date, fuel heat input (HHV) in MMBtu/hr and duration of each MSS event. The records must include hourly emission levels as measured by the in-line gas analyzer (Gas chromatograph or equivalent with volumetric gas flow rate) and the calculations based on the actual heat input for the CO₂, N₂O, and CH₄ emissions during each MSS event. These records must be kept for five years following the date of each event. Process knowledge and engineering calculation are acceptable if the in-line gas analyzer is not operational during the MSS event.
- g. Permittee must record the fuel heat input (HHV) in MMBtu/hr during flare operation. The records must include hourly emission levels as measured by the in-line gas analyzer (Gas chromatograph or equivalent with volumetric gas flow

rate) and the calculations based on the actual heat input for the CO₂, N₂O, and CH₄ emissions. These records must be kept for five years following the date of each event.

- h. The flare shall be designed and operated in accordance with 40 CFR 60.18 including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring. As an alternative, the Permittee may submit a request for an equivalency determination for the flare. The requirements established in an approved equivalency determination may be utilized if approved by the EPA. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.
- i. The Permittee shall maintain a minimum heating value of 800 Btu/scf of the waste gas (adjusted for hydrogen) routed to the flare.
- j. While the flare is operating, the permittee shall continuously monitor for flame presence at the flare pilots.
- k. Flare CO₂ emissions are calculated using equation Y-1a found in 40 CFR § 98.253(b)(1)(ii)(A). CH₄ and N₂O emissions are calculated using equations Y-4 and Y-5 as found in 40 CFR Part 98 Subpart Y.

4. Emergency Generator Diesel Engine (EPN: CR-9)

- a. The engine shall be diesel fired.
- b. The emergency generator shall have a power output not to exceed 2,206 HP.
- c. The emission limit in Table 1 is based on the emergency generator engine operating 52 hours a year for maintenance and testing.
- d. Permittee shall install and maintain an operational non-resettable elapsed time meter for the Emergency Generator.
- e. Permittee shall maintain a file of all records, data measurements, reports and documents related to the operation of the Emergency Generator, including, but not limited to, the following: all records or reports pertaining to maintenance performed, all records relating to performance tests and monitoring of the emergency generator; for each diesel fuel oil delivery, hours of operation; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
- f. The engine shall meet the requirements of 40 CFR Part 60 Subpart III.
- g. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly, calculated in accordance with 40 CFR § 98.33(a)(3)(ii).

5. Cooling Tower (EPN: CR-11)

- a. The cooling tower water supply shall be equipped with continuous pH and conductivity monitoring systems.
- b. The pH analyzer shall be calibrated on a weekly basis using 3 points. The calibration slope shall be 90% or greater and corrected for temperature. Failure to maintain an appropriate slope shall require the replacement of the pH probe or membrane.
- c. The conductivity meter shall be calibrated on a weekly basis using at least two calibration points bracketing the expected value for the cooling tower feed water. It shall measure the specific conductivity in $\mu\text{S}/\text{cm}$.
- d. Laboratory instruments shall be utilized when the on-line analyzers are out of service.
- e. The Permittee shall, on a monthly basis, test the cooling tower make-up water for alkalinity following Method 2320B from the Standard Methods for the Examination of Water and Wastewater. The bicarbonate value from this analysis will be used to calculate CO_2 emissions from the cooling tower using the following equations.

$$\text{HCO}_3 \text{ loading } \left(\frac{\text{lb}}{\text{hr}} \right) = \text{Makeup Water } \left(\frac{\text{lb}}{\text{hr}} \right) \times \text{bicarbonate (ppm)}$$

$$\text{CO}_2 \left(\frac{\text{lb}}{\text{hr}} \right) = \text{HCO}_3 \left(\frac{\text{lb}}{\text{hr}} \right) \times 44 \times \left(\frac{1}{61} \right)$$

Where:

44 = Molecular Weight of CO_2

61 = Molecular Weight of HCO_3

$$\text{CO}_2 \text{ TPM} = \text{CO}_2 \left(\frac{\text{lb}}{\text{hr}} \right) \times 2,000 \frac{\text{lb}}{\text{ton}} \times \text{XX hr/month}$$

- f. Compliance with the Annual Emission Limit shall be demonstrated on a 12-month total, rolling monthly.

6. C_3/C_4 Hydrogenation Regeneration Vent MSS Activities (EPN: CR-12-MSS)

- a. The C_3/C_4 Hydrogenation Reactor shall be operated such that coke formation is minimized.
- b. The reactor shall be fed a C_3/C_4 distillate and a purified hydrogen stream to minimize contaminants and catalyst fouling.
- c. The reactor shall be loaded with hydrogenation catalyst per catalyst supplier recommendations.

- d. Reactor temperatures, pressures, and hydrogen concentrations shall be maintained within recommended levels.
 - e. Permittee must record the time, date, and duration of each MSS event.
 - f. MSS events are limited to 100 hours per year.
7. CR Furnace Area Fugitives, CR Charge Gas Area Fugitives, CR Recovery Area Fugitives and CR C₃+ Area Fugitives (EPN's: CR-13, CR-14, CR-15 and CR-16)
- a. The Permittee shall implement the TCEQ 28MID leak detection and repair (LDAR) program for fugitive emissions for process lines in VOC service and for lines with greater than 10% methane service.
 - b. In addition, the flanges and connectors for process lines in VOC service and for lines with greater than 10% methane service are subject to quarterly monitoring and the associated 28MID requirements when leaks are detected.
 - c. The Permittee shall implement an auditory, visual, and olfactory (AVO) method for detecting leaks in natural gas piping components and fugitive emissions of methane for process lines not in VOC service but contain methane.
 - d. AVO monitoring shall be performed weekly.
8. Hydrogen Vent (EPN: CR-19)
- a. The Permittee will keep records of the date, time, and duration of each event when hydrogen rich fuel gas is vented to the atmosphere.

B. Continuous Emissions Monitoring Systems (CEMS)

- 1. The Permittee shall ensure that all required CO₂ monitoring system/equipment are installed and all certification tests are completed on or before the earlier of 90 unit operating days or 180 calendar days after the date the unit commences operation.
- 2. Permittee shall ensure compliance with the specifications and test procedures for CO₂ emission monitoring system at stationary sources, 40 CFR Part 75, or 40 CFR Part 60, Appendix B, Performance Specification numbers 1 through 9, as applicable.

IV. Recordkeeping and Reporting

- 1. In order to demonstrate compliance with the GHG emission limits in Table 1, the Permittee shall maintain the following parameters on a calendar month basis.
 - a. Records of operating hours for all emission sources listed in Table 1;
 - b. Records of the usage of blended fuel gas, pipeline quality natural gas and gas being

combusted in flares calculated or measured in accordance with the Special Conditions in Section III of this permit.

- c. Records of fuel sampling for natural gas and sampling of blended fuel gas, as required by 40 CFR § 98.34(b)(3).
2. For the EPNs listed in Table 1 and as required by this permit, the Permittee shall maintain records of the following for GHG emissions from the Equipment List (excluding fugitives): all records or reports pertaining to maintenance performed; duration of startup, shutdown; the initial startup period for the emission units; malfunctions; all records relating to performance tests, calibrations, checks and monitoring of combustion equipment; duration of an inoperative monitoring device and emission units with the required corresponding emission data; and all other information required by this permit recorded in a permanent form suitable for inspection. These records may be maintained in electronic databases.
3. Permittee shall maintain records of all GHG emission units and CO₂ emission certification tests and monitoring and compliance information required by this permit.
4. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually, except when: more frequent reporting is specifically required by an applicable subpart; or the Administrator or authorized representative, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report is due on the 30th day following the end of each semi-annual period and shall include the following
 - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Applicable time and date of each period during which the monitoring equipment was inoperative (monitoring down-time);
 - c. A statement in the report of a negative declaration; that is; a statement when no excess emissions occurred or when the monitoring equipment has not been inoperative, repaired or adjusted;
 - d. Any failure to conduct any required source testing, monitoring or other compliance activities; and
 - e. Any violation of limitations on operation, including but not limited to restrictions on hours of operation of the emergency generator.
5. Excess emissions shall be defined as any period in which the facility emissions exceed a maximum emission limit set forth in this permit, a malfunction occurs of an emission unit listed in the Equipment List that results in excess GHG emissions or any other unauthorized GHG emissions occur.
6. Excess emissions indicated by GHG emission source certification testing or compliance

monitoring shall be considered violations of the applicable emission limits in Table 1 for the purpose of this permit.

7. Instruments and monitoring systems required by this PSD permit shall have a 95% on-stream time on a 12-month rolling average basis.
8. All records required by this PSD Permit shall be retained for not less than five years following the date of such measurements, maintenance and reporting.

V. Initial Performance Testing Requirements:

- A. The Permittee shall perform stack sampling and other testing to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from at least one of the stacks of the Ethane Cracking Furnaces (EPNs: CR-1, CR-2, CR-3, CR-4 and CR-5) and one of the two Thermal Oxidizers (EPNs: CR-6 and CR-7) to determine the initial compliance with the CO₂ emission limits established in this permit. Sampling shall be conducted in accordance with 40 CFR § 60.8 and EPA Method 3a or 3b for the concentration of CO₂.

For the Ethane Cracking Furnaces and the Thermal Oxidizers:

1. Multiply the CO₂ hourly average emission rate determined under maximum operating test conditions by 8,760 hours.
 2. If the above calculated CO₂ emission total does not exceed the tons per year (TPY) specified on Table 1, no compliance strategy needs to be developed.
 3. If the above calculated CO₂ emission total exceeds the tons per year (TPY) specified in Table 1, the facility shall;
 - a. Document the exceedance in the test report; and
 - b. Explain within the report how the facility will assure compliance with the CO₂ emission limit listed in Table 1.
- B. Within 60 days after achieving the maximum production rate at which the affected facility shall be operated, but not later than 180 days after initial startup of the facility, performance tests(s) must be conducted and a written report of the performance testing results furnished to the EPA. Additional sampling may be required by TCEQ or EPA.
 - C. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol and any changes required by EPA.

- D. The Ethane Cracking Furnaces (EPNs: CR-1, CR-2, CR-3, CR-4 and CR-5) and the Thermal Oxidizers (EPNs: CR-6 and CR-7) shall operate at representative production rates during stack emission testing.
- E. Performance testing must be conducted using maximum firing rates.
- F. Performance tests must be conducted under such conditions to ensure representative performance of the affected facility. The owner or operator must make available to the EPA such records as may be necessary to determine the conditions of the performance tests.
- G. The owner or operator must provide the EPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the EPA the opportunity to have an observer present and/or to attend a pre-test meeting. If there is a delay in the original test date, the facility must provide at least 7 days prior notice of the rescheduled date of the performance test unless EPA approves an earlier rescheduled date due to unforeseen events, such as delays that are caused by weather.
- H. The owner or operator shall provide, or cause to be provided, performance testing facilities as follows:
 - 1. Sampling ports adequate for test methods applicable to this facility,
 - 2. Safe sampling platform(s),
 - 3. Safe access to sampling platform(s), and
 - 4. Utilities for sampling and testing equipment.
- I. Unless otherwise specified, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply.
- J. During subsequent operations of the Ethane Cracking Furnaces and the Thermal Oxidizers, if the firing rate is greater than that recorded during the previous stack test, by more than 10%, stack sampling shall be performed at the new operating conditions within 120 days, to verify continued performance at permitted emission limits.

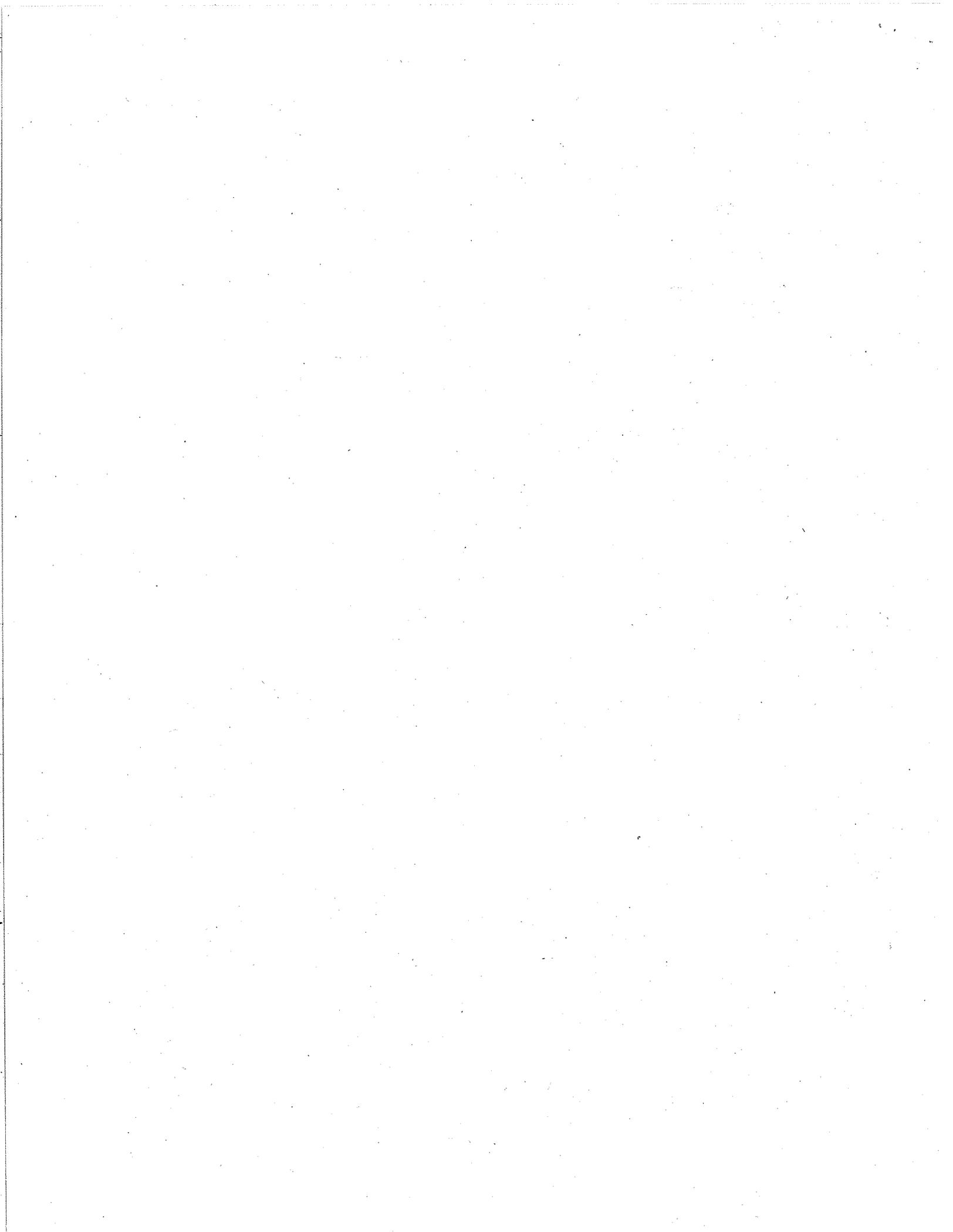
VI. Agency Notifications

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

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

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

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





TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AIR QUALITY PERMIT



A Permit Is Hereby Issued To
Occidental Chemical Corporation
Authorizing the Construction and Operation of
Ingleside Chemical Plant
Located at **Gregory, San Patricio County, Texas**
Latitude 27° 52' 51" Longitude -97° 14' 39"

Permit: 107530 and PSDTX1338

Issuance Date : May 16, 2014

Renewal Date: May 16, 2024

For the Commission

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

6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; comply with any additional recordkeeping requirements specified in special conditions attached to the permit; and retain information in the file for at least two years following the date that the information or data is obtained. [30 TAC 116.115(b)(2)(E)]
8. **Maximum Allowable Emission Rates.** The total emissions of air contaminants from any of the sources of emissions must not exceed the values stated on the table attached to the permit entitled "Emission Sources--Maximum Allowable Emission Rates." [30 TAC 116.115(b)(2)(F)]
9. **Maintenance of Emission Control.** The permitted facilities shall not be operated unless all air pollution emission capture and abatement equipment is maintained in good working order and operating properly during normal facility operations. The permit holder shall provide notification for upsets and maintenance in accordance with 30 TAC 101.201, 101.211, and 101.221 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements; Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements; and Operational Requirements). [30 TAC 116.115(b)(2)(G)]
10. **Compliance with Rules.** Acceptance of a permit by an applicant constitutes an acknowledgment and agreement that the permit holder will comply with all rules, regulations, and orders of the commission issued in conformity with the TCAA and the conditions precedent to the granting of the permit. If more than one state or federal rule or regulation or permit condition is applicable, the most stringent limit or condition shall govern and be the standard by which compliance shall be demonstrated. Acceptance includes consent to the entrance of commission employees and agents into the permitted premises at reasonable times to investigate conditions relating to the emission or concentration of air contaminants, including compliance with the permit. [30 TAC 116.115(b)(2)(H)]
11. **This** permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC 116.110(e)]
12. **There** may be additional special conditions attached to a permit upon issuance or modification of the permit. Such conditions in a permit may be more restrictive than the requirements of Title 30 of the Texas Administrative Code. [30 TAC 116.115(c)]
13. **Emissions** from this facility must not cause or contribute to a condition of "air pollution" as defined in Texas Health and Safety Code (THSC) 382.003(3) or violate THSC 382.085. If the executive director determines that such a condition or violation occurs, the holder shall implement additional abatement measures as necessary to control or prevent the condition or violation.
14. **The** permit holder shall comply with all the requirements of this permit. Emissions that exceed the limits of this permit are not authorized and are violations of this permit.

Special Conditions

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1. This permit authorizes ethylene plant operations for a facility located at 4133 Highway 361, Gregory, San Patricio County, Texas.

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. 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 Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.
4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants in 40 CFR Part 61:
 - A. Subpart A, General Provisions.
 - B. Subpart J, National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene.
 - C. Subpart BB, National Emission Standard for Benzene Emissions from Benzene Transfer Operations.
 - D. Subpart FF, National Emission Standard for Benzene Waste Operations.

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5. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on National Emission Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63:
 - A. Subpart A, General Provisions.
 - B. Subpart XX, National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations.
 - C. Subpart YY, National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards.
6. If any condition of this permit is more stringent than the applicable regulations in Special Condition Nos. 3, 4, and 5, then for the purposes of complying with this permit, the permit shall govern and be the standard by which compliance shall be demonstrated.

Emission Standards and Operational Specifications

7. Ethane Cracking Furnaces Nos. 1 to 5 (Emission Point Numbers [EPNs] CR-1 to CR-5) shall meet the following requirements:
 - A. The cracking furnaces shall be fired with natural gas or fuel gas containing no more than 0.25 grain of hydrogen sulfide per 100 dry standard cubic feet (dscf).

The natural gas and fuel gas shall be analyzed annually to determine the hydrogen sulfide content and the net heating value. Test results from the fuel supplier may be used to satisfy this requirement for natural gas.
 - B. Nitrogen oxides (NO_x), ammonia (NH₃) and carbon monoxide (CO) emissions from the cracking furnaces shall not exceed the following except during periods of planned maintenance, startup, and shutdown (MSS) as described in Special Condition 18:

0.015 lb NO_x/MMBtu on an hourly average
50 ppmvd CO corrected to 3 percent oxygen on an hourly average
10 ppmvd NH₃ corrected to 3 percent oxygen on an hourly average

0.010 lb NO_x/MMBtu on an annual average
50 ppmvd CO corrected to 3 percent oxygen on an annual average
10 ppmvd NH₃ corrected to 3 percent oxygen on an annual average

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- C. The cracking furnaces shall be controlled by selective catalytic reduction (SCR).
 - D. The permit holder shall install and operate a fuel flow meter to measure the gas fuel usage for each cracking furnace. The monitored data shall be reduced to an hourly average flow rate at least once every day, using a minimum of four equally-spaced data points from each one-hour period. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or at least annually, whichever is more frequent, and shall be accurate to within 5 percent. In lieu of monitoring fuel flow, the permit holder may monitor stack exhaust flow using the flow monitoring specifications of 40 Code of Federal Regulations (CFR) Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.
 - E. The cracking furnaces shall be monitored by a continuous emissions monitoring system (CEMS) as required by Special Condition 22.
8. CR Thermal Oxidizers Nos. 1 and 2 (EPNs CR-6 and CR-7) shall meet the following requirements:
- A. The thermal oxidizers shall maintain the VOC concentration in the exhaust gas less than 10 ppmv on a dry basis, corrected to 3 percent oxygen, or achieve a VOC destruction efficiency greater than 99.9 percent.
 - B. The thermal oxidizer firebox exit temperature shall be maintained at not less than 1400°F and exhaust oxygen concentration not less than 3 percent while waste gas is being fed into the oxidizer prior to initial stack testing. After the initial stack test has been completed, the six minute average temperature and six minute average oxygen concentration shall be greater than the respective hourly average maintained during the most recent satisfactory stack testing required by Special Condition No. 21.
 - C. The thermal oxidizer firebox exit temperature shall be continuously monitored and recorded when waste gas is directed to the oxidizer. The temperature measurement device shall reduce the temperature readings to an averaging period of 6 minutes or less and record it at that frequency. The temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or $\pm 2.5^{\circ}\text{C}$.

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

9. The High Pressure Flare (EPN CR-8) shall be designed and operated in accordance with the following requirements:
- A. The flare system shall be designed such that the combined assist gas and waste stream to each flare meets the 40 CFR § 60.18 specifications of minimum heating value and maximum tip velocity under normal, upset, and maintenance flow controls.

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 or an infrared monitor. The time, date, and duration of any loss of pilot flame shall be recorded. Each monitoring device shall be accurate to, and shall be calibrated at a frequency in accordance with, the manufacturer's specifications or equivalent.
- 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. This shall be ensured by the use of pressure assist to the flare.
- D. The permit holder shall install a continuous flow monitor, composition analyzer, and pressure monitor that provide a record of the vent stream flow composition and pressure to the flare. The flow monitor sensor and analyzer sample points shall be installed in the vent stream as near as possible to the flare inlet such that the total vent stream to the flare is measured and analyzed. Readings shall be taken at least once every 15 minutes and the average hourly values of the flow and composition shall be recorded each hour.

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

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shall be ± 5.0 mm Hg. The initial calibration of the flow monitor shall demonstrate the flow monitor accuracy specification of $\pm 5.0\%$ at flow rates equivalent to 30%, 60%, and 90% of monitor full scale. Annual calibrations of the flow monitor thereafter shall be per manufacturer specification, or equivalent.

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).

As an alternative to the calibration requirements for the continuous flow monitor and composition analyzer, the requirements for the flares in 30 TAC Chapter 115 Subchapter H Division 1 (Highly Reactive Volatile Organic Compounds – Vent Gas Control) as amended to be effective December 23, 2004 (29 TexReg 11623) may be used.

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) shall be recorded at least once every 15 minutes.

10. The CR Emergency Generator Diesel Engine (EPN CR-9) shall be fired with ultra-low sulfur diesel (sulfur content no greater than 15 ppmw). It shall be fired no more than 52 hours per year.
11. The VOC associated with cooling tower (EPN CR-11) water shall be monitored continuously with an on-line gas chromatograph or equivalent. 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.

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The 12 month rolling annual cooling water emission rate shall be recorded on a monthly basis.

Cooling water shall be sampled once a week for total dissolved solids (TDS) and once a day for conductivity. TDS shall not exceed 7000 ppmw. Dissolved solids in the cooling water drift are considered to be emitted as PM/PM₁₀. The data shall be obtained from samples of the cooling water returning to the cooling tower and represent the water being cooled in the tower. Water samples should be capped upon collection, and transferred to a laboratory area for analysis. 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]. The analysis method for Conductivity shall be ASTM D1125-95A and SM2510 B.

The permit holder may reduce the frequency of sampling for TDS by establishing a correlation between TDS and conductivity for the cooling tower as follows.

- A. For a minimum period of 6 months the cooling water shall be sampled at least once a week for TDS and conductivity. The data from the side-by-side measurements of TDS and conductivity shall be graphed and a least squares linear fit determined. The standard deviation of the calculated slope shall be determined and the slope shall be increased by two standard deviations for data quality expectation. A report including the sampling results, a data assessment, and correlation of TDS to conductivity will be maintained on site.
- B. Following the completion of the report, the cooling water shall be sampled at least daily for conductivity and the result converted to TDS from the established correlation.
- C. The correlation will be rechecked annually with a single cooling water sample analysis for TDS and conductivity. The measured TDS value shall be compared to that estimated using the measured conductivity and the established correlation. If the TDS value from the correlation does not exceed the TDS value obtained from the test method, a new correlation effort shall be conducted in accordance with paragraph A of this condition.

The cooling tower PM emissions shall be determined using the cooling tower water circulation rate, cooling tower design drift, and the measured or estimated TDS.

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12. Piping, Valves, Connectors, Pumps, Agitators and Compressors, in contact with VOC - Intensive Directed Maintenance - 28MID

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

- A. The requirements of paragraphs F and G shall not apply (1) where the volatile organic compounds (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 available upon request.

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

- (1) piping and instrumentation diagram (PID);
 - (2) a written or electronic database or electronic file;
 - (3) color coding;
 - (4) a form of weatherproof identification; or
 - (5) designation of exempted process unit boundaries.
- B. Construction of new and reworked piping, valves, pump systems, agitators, 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 available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above.
- 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

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connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the 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: the line or valve must have a cap, blind flange, plug, or second valve installed; or the permit holder shall verify that there is no leakage from the open-ended line or valve. The open-ended line or valve shall be monitored on a weekly basis in accordance with the applicable NSR permit condition for fugitive emission monitoring except that a leak is defined as any VOC reading greater than background. Leaks must be repaired within 24 hours or a cap, blind flange, plug, or second valve must be installed on the line or valve. The results of this weekly check and any corrective actions taken shall be recorded.

- 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. 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 weekly 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.

An approved gas analyzer shall conform to requirements listed in Method 21 of 40 CFR part 60, appendix A. The gas analyzer shall be calibrated

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

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. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be 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. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 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

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by tagging. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list. The cumulative daily emissions from all components on the delay of repair list shall be estimated by multiplying by 24 the mass emission rate for each component calculated in accordance with the instructions in 30 TAC 115.782 (c)(1)(B)(i)(II). The calculations of the cumulative daily emissions from all components on the delay of repair list shall be updated within ten days of when the latest leaking component is added to the delay of repair list. When the cumulative daily emission rate of all components on the delay of repair list times the number of days until the next scheduled unit shutdown is equal to or exceeds the total emissions from a unit shutdown as calculated in accordance with 30 TAC 115.782 (c)(1)(B)(i)(I), the TCEQ Regional Manager and any local programs shall be notified and may require early unit shutdown or other appropriate action based on the number and severity of tagged leaks awaiting shutdown. This notification shall be made within 15 days of making this determination.

- I. 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.

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

$$(V_l + V_s) \times 100 / V_t = V_p$$

Where:

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

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

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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.

- K. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. The instrument monitoring record shall include the time that monitoring took place for no less than 95% of the instrument readings recorded. Records of physical inspections shall be noted in the operator's log or equivalent.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard, or an applicable National Emission Standard for Hazardous Air Pollutants and does not constitute approval of alternative standards for these regulations.
13. In addition to the weekly physical inspection required by Item E of Special Condition 12, all accessible connectors in gas\ vapor and light liquid service shall be monitored quarterly with an approved gas analyzer in accordance with Items F thru J of Special Condition 12. (28CNTQ)
- A. Connectors may be monitored on a semiannual basis if the percent of connectors leaking for two consecutive quarterly monitoring periods is less than 0.5 percent.
- Connectors may be monitored on an annual basis if the percent of connectors leaking for two consecutive semiannual monitoring periods is less than 0.5 percent.
- If the percent of connectors leaking for any semiannual or annual monitoring period is 0.5 percent or greater, the facility shall revert to quarterly monitoring until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.
- B. The percent of connectors leaking used in paragraph A shall be determined using the following formula:

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

Where:

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

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

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

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

14. Piping, Valves, Pumps, and Compressors in NH₃ Service

- A. Audio, olfactory, and visual checks for leaks within the operating area shall be made once a day.
- B. As soon as practicable, following the detection of a leak, plant personnel shall initiate one or more of the following actions:
 - (1) Locate and isolate the leak, if necessary.
 - (2) Commence repair or replacement of the leaking component.
 - (3) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.

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

15. The following requirements apply to capture systems for CR Thermal Oxidizer No. 1 (EPN CR-6) and CR Thermal Oxidizer No. 2 (EPN CR-7):

- A. If used to control pollutants other than particulate, either:
 - (1) Conduct a once a month visual, audible, and/or olfactory inspection of the capture system to verify there are no leaking components in the capture system; or

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(2) Once a year, verify the capture system is leak-free by inspecting in accordance with 40 CFR Part 60, Appendix A, Test Method 21. Leaks shall be indicated by an instrument reading greater than or equal to 500 ppmv above background.

B. The control device shall not have a bypass.

or

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

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

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

A deviation shall be reported if the monitoring or inspections indicate bypass of the control device.

C. The date and results of each inspection performed shall be recorded. If the results of any inspection are not satisfactory, the deficiencies shall be recorded and the permit holder shall promptly take necessary corrective action, recording each action with the date completed.

Planned Maintenance, Startup and Shutdown

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

17. This permit authorizes the emissions for the planned maintenance, startup, and shutdown (MSS) activities summarized in the MSS Activity Summary (Attachment A) attached to this permit.

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The performance of each planned MSS activity and the emissions associated with it shall be recorded and include at least the following information:

- A. the process unit at which emissions from the MSS activity occurred, including the emission point number and common name of the process unit;
- B. the type of planned MSS activity and the reason for the planned activity;
- C. the common name and the facility identification number, if applicable, of the facilities at which the MSS activity and emissions occurred;
- D. the date and time of the MSS activity and its duration;
- E. the estimated quantity of each air contaminant, or mixture of air contaminants, emitted with the data and methods used to determine it. The emissions shall be estimated using the methods identified in the permit application or from test results, consistent with good engineering practice.

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

18. The emissions limits that are identified in Special Conditions Nos. 7.A through 7.C do not apply during the following planned MSS activities for furnaces (EPNs CR-1 to CR-5):
- A. Hot Steam Standby Mode, defined as the period when the furnace is firing at 25% or more of the maximum allowable firing rate, SCR catalyst is at minimum stable operating temperature, and no hydrocarbon feed is being charged to the furnace.
 - B. Decoking Mode, defined as the period starts when furnace effluent is introduced to the furnace firebox for the purpose of decoking and ends when furnace effluent is removed from the furnace firebox. The total time spent in Hot Steam Standby Mode and Decoking Mode combined shall not exceed 1728 hours per year for each furnace.
 - C. Start-up Mode, defined as the period beginning when fuel is introduced to the furnace and ending when the SCR catalyst bed reaches its stable operating temperature. A planned startup for each furnace is limited to 24 hours at 50% or less of the maximum allowable firing rate, except during startups requiring refractory dry out which is limited to 96 hours at 50% or less of the maximum allowable firing rate.

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- D. Shutdown Mode, defined as the period beginning when the SCR catalyst bed first drops below its stable operating temperature and ending when the fuel is removed from the furnace.
19. Total startup time for the High Pressure Flare (EPN CR-8) shall not exceed 288 hours per year. Total shutdown time for the High Pressure Flare shall not exceed 16 hours per year.
20. Additional occurrences of MSS activities authorized by this permit may be authorized under permit by rule only if conducted in compliance with this permit's procedures, emission controls, monitoring, and recordkeeping requirements applicable to the activity.

Initial Demonstration of Compliance

21. 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 one of the five CR Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) 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.

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.

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- (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. Air contaminants emitted from the cracking furnaces to be tested for include (but are not limited to) NO_x, CO, VOC, SO₂, and NH₃.
- 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 and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.
- D. The facility being sampled shall operate at the maximum firing rate while firing produced fuel gas. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.

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

- E. Sampling ports and platform(s) shall be incorporated into the design of CR Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) according to the specifications set forth in the attachment entitled "Chapter 2, 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.
- F. 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.

22. 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

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the atmosphere from one of the two CR Thermal Oxidizer Nos. 1 and 2 (EPNs CR-6 and CR-7) 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.

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. Air contaminants emitted from the thermal oxidizers to be tested for include (but are not limited to) NO_x, CO, VOC, and SO₂.
- 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 and at such other times as may be required by the TCEQ Executive Director. Requests for additional time to perform sampling shall be submitted to the appropriate regional office.

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- D. The facility being sampled shall operate at the maximum firing rate as determined by steam production with the thermal oxidizer temperature and oxygen concentrations being maintained at the low end of their control bands during stack emission testing. 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.

If the normal production rate of steam from either of the two thermal oxidizers at these facilities exceeds by more than 10 percent the pounds per hour maintained during the sampling, the company must notify in writing the TCEQ Air Section Manager for the region within 30 days and the source may be subject to additional sampling to demonstrate continued compliance with all state and federal regulations.

- E. Sampling ports and platform(s) shall be incorporated into the design of CR Thermal Oxidizer No. 1 (EPN CR-1) and CR Thermal Oxidizer No. 2 (EPN CR-2) according to the specifications set forth in the attachment entitled "Chapter 2, 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.
- F. 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.

Continuous Demonstration of Compliance

23. The permit holder shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of NO_x, CO, and O₂ from Ethane Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5)

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and the in-stack concentration of NO_x, CO, and VOC from CR Thermal Oxidizer No. 1 (EPN CR-6) and CR Thermal Oxidizer No. 2 (EPN CR-7). As an alternative to installing a VOC CEMS, stack testing for VOC destruction removal efficiency (DRE) can be conducted to establish minimum firebox temperature to achieve 99.9% DRE. The minimum firebox temperature established during DRE testing will become operation limits to demonstrate compliance with the VOC emission limits.

- 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, Section 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Manager, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Manager.
 - (2) The system shall be zeroed and spanned daily, and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span is not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days.

Each monitor shall be quality-assured at least quarterly using Cylinder Gas Audits (CGA) in accordance with 40 CFR Part 60, Appendix F, Procedure 1, Section 5.1.2, with the following exception: a relative accuracy test audit (RATA) is not required once every four quarters (i.e., four successive quarterly CGA may be conducted). An equivalent quality-assurance method approved by

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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 pounds per hour at least once every week as follows:
- The measured hourly average concentration from the CEMS shall be multiplied by the flow rate measured during the latest stack test performed in accordance with Special Conditions 21 and 22 to determine the hourly emission rate. Alternatively, a stack flow analyzer may be installed to determine the stack flow rate for use in the hour emission rate calculation.
- 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 (facility generating emissions) is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the (facility generating emissions) operated over the previous rolling 12-month period. The measurements missed shall be estimated using engineering judgement 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.
24. The NH_3 concentration in each furnace stack gas shall be tested on a daily basis using a sorbent tube device specific for ammonia.
- A. If a reading of 8 ppmv or higher is detected, further testing be either the Phenol-Nitroprusside Method or the Indophenol Method shall be conducted. Testing by either the Phenol-Nitroprusside Method or the Indophenol Method shall be performed on a quarterly basis regardless of

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grab sample results. These results shall be recorded and used to determine compliance with Special Condition No. 7.B.

- B. Any other method used shall require prior approval from the TCEQ.
- C. The frequency of the sorbent tube testing may be reduced from daily to twice weekly after operating procedures have been developed to prevent excess amounts of NH₃ from being introduced in the SCR system and when operation of the SCR has been proven successful with regard to controlling ammonia slippage. Parts A and B of this condition shall remain in effect. The testing period may be changed by an alteration request for this permit. The material to be submitted for this request shall include:
 - (1) All NH₃ test data (to show compliance with Special Condition No. 7.B)
 - (2) An outline or description of sufficient detail to facilitate a thorough understanding of the procedure used in operating the SCR system to minimize ammonia slippage.

Recordkeeping

- 25. The permit holder shall maintain the following records electronically or in hard copy format for at least five years. These records shall be used to demonstrate compliance with the Special Conditions and the limits specified in the MAERT:
 - A. Records required by 40 CFR 60, Subparts A and Kb;
 - B. Records required by 40 CFR 61, Subparts A, J, BB, and FF;
 - C. Records required by 40 CFR 63, Subparts A, XX, and YY;
 - D. Fuel gas H₂S content and flow rate records as required by Special Condition 7;
 - E. Thermal oxidizer temperature records as required by Special Condition 8;
 - F. Flare pilot flame records as required by Special Condition 9;
 - G. Cooling tower VOC, TDS, and conductivity records as Special Condition 11;
 - H. Fugitive monitoring records required by Special Conditions 12, 13, and 14;

- I. Compliance assurance monitoring records required by Special Condition 15;
- J. MSS activity records as required by Special Condition 17;
- K. Stack sampling records required by Special Conditions 21 and 22;
- L. CEMS records required by Special Condition 23;
- M. Furnace stack ammonia concentration monitoring requirements of Special Condition 24.

Incorporation by Reference

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

Authorization	Source or Activity
106.473	Methanol Storage Tank
106.472	Sulfuric Acid Storage Tank

Alternate Means of Control (AMOC)

27. If a request for an AMOC is granted by the regulating authority (TCEQ or EPA) for the High Pressure Flare (EPN CR-8), the requirements of the approved AMOC shall supersede the requirements of Special Condition No. 9. The permit holder shall incorporate these conditions into the permit through an alteration no later than 90 days after approval of the AMOC.

Dated: May 16, 2014

Attachment A
Permit Numbers 107530 and PSDTX1338
MSS Activity Summary

Facilities	Description	Emissions Activity	EPN
Ethane Cracking Furnaces Nos. 1 to 5	Cold startup	Starting up cracking furnaces after complete shutdown	CR-1-MSS, CR-2-MSS, CR-3-MSS, CR-4-MSS, CR-5-MSS
Ethane Cracking Furnaces Nos. 1 to 5	Decoking	Routing decoking emissions back to furnace firebox and then to atmosphere	CR-1-MSS, CR-2-MSS, CR-3-MSS, CR-4-MSS, CR-5-MSS
Ethane Cracking Furnaces Nos. 1 to 5	Hot Steam Standby	Furnaces operating at low firing rates prior to being placed in service or after coming out of service	CR-1-MSS, CR-2-MSS, CR-3-MSS, CR-4-MSS, CR-5-MSS
CR High Pressure Flare	Plant startup	Venting plant startup gases to the flare	CR-8-MSSa
CR High Pressure Flare	Plant shutdown	Venting plant shutdown to the flare	CR-8-MSSb
C3/C4 Hydrogenation Regeneration Vent	Steam purging hydrocarbons from the reactor to the quench column followed by steam and air purging of the reactor to remove residual hydrocarbon and coke from the catalyst	Vent to atmosphere	CR-12-MSS
CR Emergency Generation Diesel Engine	Running engine one hour a week as test	Vent to atmosphere	CR-9

Dated May 16, 2014

Emission Sources - Maximum Allowable Emission Rates
Permit Numbers 107530 and PSDTX1338

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)
CR-1	Ethane Cracking Furnace No. 1	NO _x	4.13	12.42
		CO	11.00	48.80
		VOC	1.48	6.49
		PM	0.88	3.85
		PM ₁₀	0.88	3.85
		PM _{2.5}	0.88	3.85
		SO ₂	0.19	2.64
		NH ₃	1.21	5.30
CR-1-MSS	Ethane Cracking Furnace No. 1 - MSS	NO _x	26.00	(6)
		CO	43.00	(6)
		VOC	0.19	(6)
		PM	0.29	(6)
		PM ₁₀	0.29	(6)
		PM _{2.5}	0.29	(6)
		SO ₂	10.42	(6)
		NH ₃	1.21	(6)
CR-2	Ethane Cracking Furnace No. 2	NO _x	4.13	12.42
		CO	11.00	48.80
		VOC	1.48	6.49
		PM	0.88	3.85
		PM ₁₀	0.88	3.85
		PM _{2.5}	0.88	3.85
		SO ₂	0.19	2.64
		NH ₃	1.21	5.30

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CR-2-MSS	Ethane Cracking Furnace No. 2 - MSS	NO _x	26.00	(6)
		CO	43.00	(6)
		VOC	0.19	(6)
		PM	0.29	(6)
		PM ₁₀	0.29	(6)
		PM _{2.5}	0.29	(6)
		SO ₂	10.42	(6)
		NH ₃	1.21	(6)
CR-3	Ethane Cracking Furnace No. 3	NO _x	4.13	12.42
		CO	11.00	48.80
		VOC	1.48	6.49
		PM	0.88	3.85
		PM ₁₀	0.88	3.85
		PM _{2.5}	0.88	3.85
		SO ₂	0.19	2.64
		NH ₃	1.21	5.30
CR-3-MSS	Ethane Cracking Furnace No. 3 - MSS	NO _x	26.00	(6)
		CO	43.00	(6)
		VOC	0.19	(6)
		PM	0.29	(6)
		PM ₁₀	0.29	(6)
		PM _{2.5}	0.29	(6)
		SO ₂	10.42	(6)
		NH ₃	1.21	(6)

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CR-4	Ethane Cracking Furnace No. 4	NO _x	4.13	12.42
		CO	11.00	48.80
		VOC	1.48	6.49
		PM	0.88	3.85
		PM ₁₀	0.88	3.85
		PM _{2.5}	0.88	3.85
		SO ₂	0.19	2.64
		NH ₃	1.21	5.30
CR-4-MSS	Ethane Cracking Furnace No. 4 - MSS	NO _x	26.00	(6)
		CO	43.00	(6)
		VOC	0.19	(6)
		PM	0.29	(6)
		PM ₁₀	0.29	(6)
		PM _{2.5}	0.29	(6)
		SO ₂	10.42	(6)
		NH ₃	1.21	(6)
CR-5	Ethane Cracking Furnace No. 5	NO _x	4.13	12.42
		CO	11.00	48.80
		VOC	1.48	6.49
		PM	0.88	3.85
		PM ₁₀	0.88	3.85
		PM _{2.5}	0.88	3.85
		SO ₂	0.19	2.64
		NH ₃	1.21	5.30

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CR-5-MSS	Ethane Cracking Furnace No. 5 - MSS	NO _x	26.00	(6)
		CO	43.00	(6)
		VOC	0.19	(6)
		PM	0.29	(6)
		PM ₁₀	0.29	(6)
		PM _{2.5}	0.29	(6)
		SO ₂	10.42	(6)
CR-1, CR-2, CR-3, CR-4, CR-5	Hourly NO _x Cap for Ethane Cracking Furnaces Nos. 1 to 5	NO _x	15.13	(7)
CR-6	CR Thermal Oxidizer No. 1	NO _x	5.10	22.34
		CO	3.40	14.89
		VOC	2.98	13.03
		SO ₂	0.09	0.37
		H ₂ SO ₄	0.01	0.04
		PM	0.85	3.72
		PM ₁₀	0.85	3.72
CR-7	CR Thermal Oxidizer No. 2	NO _x	5.10	22.34
		CO	3.40	14.89
		VOC	2.98	13.03
		SO ₂	0.09	0.37
		H ₂ SO ₄	0.01	0.04
		PM	0.85	3.72
		PM ₁₀	0.85	3.72
CR-8	CR High Pressure Flare	NO _x	0.22	0.97
		CO	0.44	1.93
		SO ₂	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)
CR-8-MSSa	CR High Pressure Flare – Startup Activities	NO _x	510.60	73.53
		CO	1019.35	146.79
		VOC	939.00	135.22
		SO ₂	30.12	4.34
CR-8-MSSb	CR High Pressure Flare – Shutdown Activities	NO _x	427.80	3.42
		CO	854.05	6.83
		VOC	1113.00	8.90
CR-9	CR Emergency Generator Diesel Engine	NO _x	24.45	0.64
		CO	2.14	0.06
		VOC	0.54	0.01
		SO ₂	0.02	0.01
		PM	0.14	0.01
		PM ₁₀	0.14	0.01
		PM _{2.5}	0.14	0.01
CR-11	CR Cooling Tower	VOC	42.03	18.41
		PM _{2.5}	0.006	0.03
		PM ₁₀	0.56	2.45
		PM	2.94	12.89
		Cl ₂	0.01	0.01
CR-12-MSS	C3/C4 Hydrogenation Regeneration Vent – MSS Activities	CO	76.09	3.80
		VOC	2.00	0.10
CR-13	CR Furnace Area Fugitives (5)	VOC	0.34	1.51
		NH ₃	0.03	0.14
CR-14	CR Charge Gas Area Fugitives (5)	VOC	0.82	3.61
CR-15	CR Recovery Area Fugitives (5)	VOC	1.35	5.91
CR-16	CR 3+ Area Fugitives (5)	VOC	0.22	0.95
CR-17	CR Waste Treatment Area Fugitives (5)	VOC	0.18	0.77

Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
CR-18	CR LPG and Gasoline Storage and Loading Area Fugitives (5)	VOC	0.26	1.12
CR-19	Hydrogen Vent	CO	0.04	0.03

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources, use area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}, as represented
 PM₁₀ - 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
 CO - carbon monoxide
 NH₃ - ammonia
 H₂SO₄ - sulfuric acid
 Cl₂ - chlorine
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rates are estimates and are enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Annual MSS emissions for Ethane Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) are contained within the respective annual allowables for each furnace.
- (7) Annual routine NO_x emissions for Ethane Cracking Furnaces Nos. 1 to 5 (EPNs CR-1 to CR-5) are contained within the respective annual allowables for each furnace.

Date: May 16, 2014