

# FEDERAL OPERATING PERMIT

A FEDERAL OPERATING PERMIT IS HEREBY ISSUED TO  
Eco Services Operations LLC

AUTHORIZING THE OPERATION OF  
Eco Services Operations Houston Plant  
Industrial Inorganic Chemicals

LOCATED AT  
Harris County, Texas  
Latitude 29° 43' 11" Longitude 95° 16' 18"  
Regulated Entity Number: RN100220581

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:   O3049   Issuance Date: \_\_\_\_\_

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For the Commission

## Table of Contents

Section	Page
General Terms and Conditions .....	1
Special Terms and Conditions .....	1
Emission Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting .....	1
Additional Monitoring Requirements .....	14
New Source Review Authorization Requirements .....	14
Compliance Requirements.....	15
Risk Management Plan .....	17
Permit Location.....	17
Permit Shield (30 TAC § 122.148) .....	17
Attachments .....	19
Applicable Requirements Summary .....	20
Additional Monitoring Requirements .....	48
Permit Shield.....	60
New Source Review Authorization References.....	62
Appendix A .....	66
Acronym List .....	67
Appendix B .....	68

## **General Terms and Conditions**

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

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

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

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

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

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

1. Permit holder shall comply with the following requirements:
  - A. Emission units (including groups and processes) in the Applicable Requirements Summary attachment shall meet the limitations, standards, equipment specifications, monitoring, recordkeeping, reporting, testing, and other requirements listed in the Applicable Requirements Summary attachment to assure compliance with the permit.
  - B. The textual description in the column titled "Textual Description" in the Applicable Requirements Summary attachment is not enforceable and is not deemed as a substitute for the actual regulatory language. The Textual Description is provided for information purposes only.

- C. A citation listed on the Applicable Requirements Summary attachment, which has a notation [G] listed before it, shall include the referenced section and subsection for all commission rules, or paragraphs for all federal and state regulations and all subordinate paragraphs, subparagraphs and clauses, subclauses, and items contained within the referenced citation as applicable requirements.
  - D. When a grouped citation, notated with a [G] in the Applicable Requirements Summary, contains multiple compliance options, the permit holder must keep records of when each compliance option was used.
  - E. Emission units subject to 40 CFR Part 63, Subpart G as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.120 which incorporates the 40 CFR Part 63 Subpart by reference.
  - F. Emission units subject to 40 CFR Part 63, Subpart GGG as identified in the attached Applicable Requirements Summary table are subject to 30 TAC Chapter 113, Subchapter C, § 113.640 which incorporates the 40 CFR Part 63 Subpart by reference.
  - G. The permit holder shall comply with the following 30 TAC Chapter 101, Subchapter H, Division 3 (Mass Emission Cap and Trade Program) Requirements:
    - (i) Title 30 TAC § 101.352 (relating to General Provisions)
    - (ii) Title 30 TAC § 101.353 (relating to Allocation of Allowances)
    - (iii) Title 30 TAC § 101.354 (relating to Allowance Deductions)
    - (iv) Title 30 TAC § 101.356 (relating to Allowance Banking and Trading)
    - (v) Title 30 TAC § 101.358 (relating to Emission Monitoring and Compliance Demonstration)
    - (vi) Title 30 TAC § 101.359 (relating to Reporting)
    - (vii) Title 30 TAC § 101.360 (relating to Level of Activity Certification)
    - (viii) The terms and conditions by which the emission limits are established to meet or exceed the cap are applicable requirements of this permit
2. The permit holder shall comply with the following sections of 30 TAC Chapter 101 (General Air Quality Rules):

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

shall also comply with the following periodic monitoring requirements for the purpose of annual compliance certification under 30 TAC § 122.146. These periodic monitoring requirements do not apply to vents that are not capable of producing visible emissions such as vents that emit only colorless VOCs; vents from non-fuming liquids; vents that provide passive ventilation, such as plumbing vents; or vent emissions from any other source that does not obstruct the transmission of light. Vents, as specified in the “Applicable Requirements Summary” attachment, that are subject to the emission limitation of 30 TAC § 111.111(a)(1)(B) are not subject to the following periodic monitoring requirements:

- (1) An observation of stationary vents from emission units in operation shall be conducted at least once during each calendar quarter unless the emission unit is not operating for the entire quarter.
- (2) For stationary vents from a combustion source, if an alternative to the normally fired fuel is fired for a period greater than or equal to 24 consecutive hours, the permit holder shall conduct an observation of the stationary vent for each such period to determine if visible emissions are present. If such period is greater than 3 months, observations shall be conducted once during each quarter. Supplementing the normally fired fuel with natural gas or fuel gas to increase the net heating value to the minimum required value does not constitute creation of an alternative fuel.
- (3) Records of all observations shall be maintained.
- (4) Visible emissions observations of emission units operated during daylight hours shall be conducted no earlier than one hour after sunrise and no later than one hour before sunset. Visible emissions observations of emission units operated only at night must be made with additional lighting and the temporary installation of contrasting backgrounds. Visible emissions observations shall be made during times when the activities described in 30 TAC § 111.111(a)(1)(E) are not taking place. Visible emissions shall be determined with each stationary vent in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 mile, away from each stationary vent during the observation. For outdoor locations, the observer shall select a position where the sun is not directly in the observer’s eyes. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed

water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor. A certified opacity reader is not required for visible emissions observations.

- (5) Compliance Certification:
  - (a) If visible emissions are not present during the observation, the RO may certify that the source is in compliance with the applicable opacity requirement in 30 TAC § 111.111(a)(1) and (a)(1)(B).
  - (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(1)(F) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader.
  - (c) Some vents may be subject to multiple visible emission or monitoring requirements. All credible data must be considered when certifying compliance with this requirement even if the observation or monitoring was performed to demonstrate compliance with a different requirement.

- B. For visible emissions from a building, enclosed facility, or other structure; the permit holder shall comply with the following requirements:
  - (i) Title 30 TAC § 111.111(a)(7)(A) (relating to Requirements for Specified Sources)
  - (ii) Title 30 TAC § 111.111(a)(7)(B)(i) or (ii)

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

- (b) However, if visible emissions are present during the observation, the permit holder shall either list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2) or conduct the appropriate opacity test specified in 30 TAC § 111.111(a)(7)(B) as soon as practicable, but no later than 24 hours after observing visible emissions to determine if the source is in compliance with the opacity requirements. If an opacity test is performed and the source is determined to be in compliance, the RO may certify that the source is in compliance with the applicable opacity requirement. However, if an opacity test is performed and the source is determined to be out of compliance, the permit holder shall list this occurrence as a deviation on the next deviation report as required under 30 TAC § 122.145(2). The opacity test must be performed by a certified opacity reader
- C. 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. Permit holders for sites that have materials handling, construction, roads, streets, alleys, and parking lots shall comply with the following requirements:
  - (i) Title 30 TAC § 111.143 (relating to Materials Handling)
  - (ii) Title 30 TAC § 111.145 (relating to Construction and Demolition)
  - (iii) Title 30 TAC § 111.147 (relating to Roads, Streets, and Alleys)
  - (iv) Title 30 TAC § 111.149 (relating to Parking Lots)
- F. Emission limits on nonagricultural processes, except for the steam generators specified in 30 TAC § 111.153, shall comply with the following requirements:
  - (i) Emissions of PM from any source may not exceed the allowable rates as required in 30 TAC § 111.151(a) (relating to Allowable Emissions Limits)

- (ii) Sources with an effective stack height ( $h_e$ ) less than the standard effective stack height ( $H_e$ ), must reduce the allowable emission level by multiplying it by  $[h_e/H_e]^2$  as required in 30 TAC § 111.151(b)
  - (iii) Effective stack height shall be calculated by the equation specified in 30 TAC § 111.151(c)
- 4. For industrial wastewater specified in 30 TAC Chapter 115, Subchapter B, the permit holder shall comply with 40 CFR Part 63, Subpart G as specified in 30 TAC § 115.143(c)(1) - (3).
- 5. The permit holder shall comply with the following requirements of 30 TAC Chapter 115, Subchapter F, Division 3, Degassing of Storage Tanks, Transport Vessels and Marine Vessels:
  - A. For degassing of stationary VOC storage tanks, the permit holder shall comply with the following requirements:
    - (i) Title 30 TAC § 115.541(a) - (c) (relating to Emission Specifications)
    - (ii) Title 30 TAC § 115.541(f) (relating to Emission Specifications), for floating roof storage tanks
    - (iii) Title 30 TAC § 115.542(a) and (a)(1), (a)(2), (a)(3) or (a)(4) (relating to Control Requirements). Where the requirements of 30 TAC Chapter 115, Subchapter F contain multiple compliance options, the permit holder shall keep records of when each compliance option was used.
    - (iv) Title 30 TAC § 115.542(b) - (d), (relating to Control Requirements)
    - (v) Title 30 TAC § 115.543 (relating to Alternate Control Requirements)
    - (vi) Title 30 TAC § 115.544(a)(1) and (a)(2) (relating to Inspection, Monitoring, and Testing Requirements), for inspections
    - (vii) Title 30 TAC § 115.544(b) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring
    - (viii) Title 30 TAC § 115.544(b)(1) and (b)(2) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring of control devices
    - (ix) Title 30 TAC § 115.544(b)(2)(A) - (J) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring (as appropriate to the control device)

- (x) Title 30 TAC § 115.544(b)(3), (b)(4) and (b)(6) (relating to Inspection, Monitoring, and Testing Requirements), for VOC concentration or lower explosive limit threshold monitoring
  - (xi) Title 30 TAC § 115.544(c), and (c)(1) - (c)(3) (relating to Inspection, Monitoring, and Testing Requirements), for testing of control devices used to comply with 30 TAC § 115.542(a)(1)
  - (xii) Title 30 TAC § 115.545(1) - (7), (9) - (11) and (13) (relating to Approved Test Methods)
  - (xiii) Title 30 TAC § 115.546(a), (a)(1) and (a)(3) (relating to Recordkeeping and Notification Requirements), for recordkeeping
  - (xiv) Title 30 TAC § 115.546(a)(2) and (a)(2)(A) - (J) (relating to Recordkeeping and Notification Requirements), for recordkeeping (as appropriate to the control device)
  - (xv) Title 30 TAC § 115.546(a)(4) (relating to Recordkeeping and Notification Requirements), for recordkeeping of testing of control devices used to comply with 30 TAC § 115.542(a)(1)
  - (xvi) Title 30 TAC § 115.546(b) (relating to Recordkeeping and Notification Requirements), for notification
  - (xvii) Title 30 TAC § 115.547(4) (relating to Exemptions)
- B. For the degassing of all transport vessels with a nominal capacity of 8,000 gallons or more, the permit holder shall comply with the following requirements:
- (i) Title 30 TAC § 115.541(a) - (c) and (d) (relating to Emission Specifications)
  - (ii) Title 30 TAC § 115.542(a) and (a)(1), (a)(2), (a)(3) or (a)(4) (relating to Control Requirements). Where the requirements of 30 TAC Chapter 115, Subchapter F contain multiple compliance options, the permit holder shall keep records of when each compliance option was used.
  - (iii) Title 30 TAC § 115.542(b), (c) and (e) (relating to Control Requirements)
  - (iv) Title 30 TAC § 115.543 (relating to Alternate Control Requirements)
  - (v) Title 30 TAC § 115.544(a)(1) and (a)(2) (relating to Inspection, Monitoring, and Testing Requirements), for inspections

- (vi) Title 30 TAC § 115.544(b) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring
- (vii) Title 30 TAC § 115.544(b)(1) and (b)(2) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring of control devices
- (viii) Title 30 TAC § 115.544(b)(2)(A) - (J) (relating to Inspection, Monitoring, and Testing Requirements), for monitoring (as appropriate to the control device)
- (ix) Title 30 TAC § 115.544(b)(3), (b)(4) and (b)(6) (relating to Inspection, Monitoring, and Testing Requirements), for VOC concentration or lower explosive limit threshold monitoring
- (x) Title 30 TAC § 115.544(c), and (c)(1) - (c)(3) (relating to Inspection, Monitoring, and Testing Requirements), for testing of control devices used to comply with 30 TAC § 115.542(a)(1)
- (xi) Title 30 TAC § 115.545(1) - (11) and (13) (relating to Approved Test Methods)
- (xii) Title 30 TAC § 115.546(a), (a)(1) and (a)(3) (relating to Recordkeeping and Notification Requirements), for recordkeeping
- (xiii) Title 30 TAC § 115.546(a)(2) and (a)(2)(A) - (J) (relating to Recordkeeping and Notification Requirements), for recordkeeping (as appropriate to the control device)
- (xiv) Title 30 TAC § 115.546(a)(4) (relating to Recordkeeping and Notification Requirements), for recordkeeping of testing of control devices used to comply with 30 TAC § 115.542(a)(1)
- (xv) Title 30 TAC § 115.546(b) (relating to Recordkeeping and Notification Requirements), for notification

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 10 megagrams per year and subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
- A. Title 40 CFR § 61.342(c)(1)(i) - (iii) (relating to Standards: General)
  - B. Title 40 CFR § 61.342(g) (relating to Standards: General)
  - C. Title 40 CFR § 61.350(a) and (b) (relating to Standards: Delay of Repair)
  - D. Title 40 CFR § 61.355(b)(3) (relating to Test Methods, Procedures, and Compliance Provisions)
  - E. Title 40 CFR § 61.356(a) (relating to Recordkeeping Requirements)

- F. Title 40 CFR § 61.356(b), and (b)(1) (relating to Recordkeeping Requirements)
  - G. Title 40 CFR § 61.356(b)(5) (relating to Recordkeeping Requirements)
  - H. Title 40 CFR § 61.357(a), (d)(1), (d)(2) (d)(6) and (d)(8) (relating to Reporting Requirements)
9. For facilities with containers subject to emission standards in 40 CFR Part 61, Subpart FF, the permit holder shall comply with the following requirements:
- A. Title 40 CFR § 61.345(a)(1) - (3), (b), and (c) (relating to Standards: Containers)
  - B. Title 40 CFR § 61.355(h) (relating to Test Methods, Procedures and Compliance Provisions)
  - C. Title 40 CFR § 61.356(g) (relating to Recordkeeping Requirements)
  - D. Title 40 CFR § 61.356(h) (relating to Recordkeeping Requirements)
10. The permit holder shall comply with the requirements of 30 TAC Chapter 113, Subchapter C, § 113.100 for units subject to any subpart of 40 CFR Part 63, unless otherwise stated in the applicable subpart.
11. For the chemical manufacturing facilities subject to provisions in 40 CFR Parts 260 - 272, the permit holder shall comply with the following requirements:
- A. Title 40 CFR § 63.110(e)(2)(i) (relating to Applicability), for 40 CFR Part 63, Subpart G applicability to Group 1 or 2 Wastewater Streams
  - B. Title 40 CFR § 63.110(e)(2)(ii)(A) and (B) (relating to Applicability), for 40 CFR Part 63, Subpart G applicability to Group 1 or 2 Wastewater Streams
12. For the chemical manufacturing facilities with a 40 CFR Part 63, Subpart G Group 2 wastewater stream, the permit holder shall comply with (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):
- A. Title 40 CFR § 63.132(a), (a)(1), and (a)(1)(i) (relating to Process Wastewater Provisions - General)
  - B. Title 40 CFR § 63.146(b)(1) (relating to Process Wastewater Provisions - Reporting)
  - C. Title 40 CFR § 63.147(b)(8) (relating to Process Wastewater Provisions - Recordkeeping)

13. For the chemical manufacturing facilities subject to leak detection requirements in 40 CFR Part 63, Subpart G, the permit holder shall comply with the following requirements (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):
  - A. General Leak Detection Requirements:
    - (i) Title 40 CFR § 63.148(d)(1) - (3), and (e) (relating to Leak Inspection Provisions)
    - (ii) Title 40 CFR § 63.148(c), (g), (g)(2), (h), and (h)(2) (relating to Leak Inspection Provisions), for monitoring and testing requirements
    - (iii) Title 40 CFR §§ 63.148(g)(2), (h)(2), (i)(1) - (2), (i)(4)(i) - (viii), (i)(5), and 63.152(a)(1) - (5), for recordkeeping requirements
    - (iv) Title 40 CFR §§ 63.148(j), 63.151(a)(6)(i) - (iii), (b)(1) - (2), (j)(1) - (3), 63.152(a)(1) - (5), (b), (b)(1)(i) - (ii), and (b)(4), for reporting requirements
  - B. For closed vent system or vapor collection systems constructed of hard piping:
    - (i) Title 40 CFR § 63.148(b)(1)(ii) (relating to Leak Inspection Provisions), for monitoring and testing requirements
    - (ii) Title 40 CFR § 63.148(i)(6) (relating to Leak Inspection Provisions), for recordkeeping requirements
14. For the chemical manufacturing facilities subject to wastewater operations requirements in 40 CFR Part 63, Subpart G, the permit holder shall comply with the following requirements (Title 30 TAC Chapter 113, Subchapter C, § 113.120 incorporated by reference):
  - A. Title 40 CFR § 63.135(a) - (f) (relating to Process Wastewater Provisions - Containers)
15. The permit holder shall comply with certified registrations submitted to the TCEQ for purposes of establishing federally enforceable emission limits. A copy of the certified registration shall be maintained with the permit. Records sufficient to demonstrate compliance with the established limits shall be maintained. The certified registration and records demonstrating compliance shall be provided, on request, to representatives of the appropriate TCEQ regional office and any local air pollution control agency having jurisdiction over the site. The permit holder shall submit updated certified registrations when changes at the site require establishment of new emission limits. If changes result in emissions that do not remain below major source thresholds, the permit

holder shall submit a revision application to codify the appropriate requirements in the permit.

### **Additional Monitoring Requirements**

16. 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**

17. 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
18. 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.
19. 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).

20. The permit holder shall comply with the terms and conditions of the air addendum of the Industrial Hazardous Waste permits listed in the New Source Review Authorization Reference Attachment. Requirements other than those of the air addendum are not applicable to this operating permit.
21. The permit holder shall comply with the following requirements for Air Quality Standard Permits:
  - A. Registration requirements listed in 30 TAC § 116.611, unless otherwise provided for in an Air Quality Standard Permit
  - B. General Conditions listed in 30 TAC § 116.615, unless otherwise provided for in an Air Quality Standard Permit
  - C. Applicable requirements of 30 TAC § 116.617 for Pollution Control Projects based on the information contained in the registration application.

### **Compliance Requirements**

22. 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.
23. Permit holder shall comply with the following 30 TAC Chapter 117 requirements:
  - A. The permit holder shall comply with the compliance schedules and submit written notification to the TCEQ Executive Director as required in 30 TAC Chapter 117, Subchapter H, Division 1:
    - (i) For sources in the Houston-Galveston-Brazoria Nonattainment area, 30 TAC § 117.9020:
      - (1) Title 30 TAC § 117.9020(2)(A), (C), and (D)
  - B. The permit holder shall comply with the Initial Control Plan unit listing requirement in 30 TAC § 117.350(c) and (c)(1).

- C. The permit holder shall comply with the requirements of 30 TAC § 117.354 for Final Control Plan Procedures for Attainment Demonstration Emission Specifications and 30 TAC § 117.356 for Revision of Final Control Plan.
24. Use of Emission Credits to comply with applicable requirements:
- A. Unless otherwise prohibited, the permit holder may use emission credits to comply with the following applicable requirements listed elsewhere in this permit:
    - (i) Title 30 TAC Chapter 115
    - (ii) Title 30 TAC Chapter 117
    - (iii) Offsets for Title 30 TAC Chapter 116
  - B. The permit holder shall comply with the following requirements in order to use the emission credits to comply with the applicable requirements:
    - (i) The permit holder must notify the TCEQ according to 30 TAC § 101.306(c)(2)
    - (ii) The emission credits to be used must meet all the geographic, timeliness, applicable pollutant type, and availability requirements listed in 30 TAC Chapter 101, Subchapter H, Division 1
    - (iii) The executive director has approved the use of the credit according to 30 TAC § 101.306(c)(2)
    - (iv) The permit holder keeps records of the use of credits towards compliance with the applicable requirements in accordance with 30 TAC § 101.302(g) and 30 TAC Chapter 122
    - (v) Title 30 TAC § 101.305 (relating to Emission Reductions Achieved Outside the United States)
25. Use of Discrete Emission Credits to comply with the applicable requirements:
- A. Unless otherwise prohibited, the permit holder may use discrete emission credits to comply with the following applicable requirements listed elsewhere in this permit:
    - (i) Title 30 TAC Chapter 115
    - (ii) Title 30 TAC Chapter 117
    - (iii) If applicable, offsets for Title 30 TAC Chapter 116
    - (iv) Temporarily exceed state NSR permit allowables

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

### **Risk Management Plan**

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

### **Permit Location**

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

### **Permit Shield (30 TAC § 122.148)**

28. A permit shield is granted for the emission units, groups, or processes specified in the attached "Permit Shield." Compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements listed in the attachment "Permit Shield." Permit shield provisions shall not be modified by the executive director until notification is provided to the permit holder. No later than 90 days after notification of a change in a determination made by the executive director, the permit holder shall apply for the appropriate permit revision to reflect the new determination. Provisional terms are not eligible for

this permit shield. Any term or condition, under a permit shield, shall not be protected by the permit shield if it is replaced by a provisional term or condition or the basis of the term and condition changes.

## **Attachments**

**Applicable Requirements Summary**

**Additional Monitoring Requirements**

**Permit Shield**

**New Source Review Authorization References**

## **Applicable Requirements Summary**

**Unit Summary ..... 21**

**Applicable Requirements Summary ..... 29**

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
101	EMISSION POINTS/STATIONARY VENTS/PROCESS VENTS	N/A	R1111-0001	30 TAC Chapter 111, Visible Emissions	No changing attributes.
117	BOILERS/STEAM GENERATORS/STEAM GENERATING UNITS	N/A	R7ICI-0001	30 TAC Chapter 117, Subchapter B	No changing attributes.
120	INCINERATOR	N/A	R7ICI-0001	30 TAC Chapter 117, Subchapter B	No changing attributes.
128	PROCESS HEATERS/FURNACES	N/A	R7ICI-0002	30 TAC Chapter 117, Subchapter B	No changing attributes.
170	INCINERATOR	N/A	R7ICI-0001	30 TAC Chapter 117, Subchapter B	No changing attributes.
48	STORAGE TANKS/VESSELS	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
48	STORAGE TANKS/VESSELS	N/A	60Kb-0002B	40 CFR Part 60, Subpart Kb	No changing attributes.
49	STORAGE TANKS/VESSELS	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
49	STORAGE TANKS/VESSELS	N/A	60Kb-0002B	40 CFR Part 60, Subpart Kb	No changing attributes.
53	STORAGE TANKS/VESSELS	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
53	STORAGE TANKS/VESSELS	N/A	60Kb-0002	40 CFR Part 60, Subpart Kb	No changing attributes.

## Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
56	STORAGE TANKS/VESSELS	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
78	STORAGE TANKS/VESSELS	N/A	R5112	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
B1	STORAGE TANKS/VESSELS	N/A	R5112-0001	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
B1	STORAGE TANKS/VESSELS	N/A	60Kb-0002	40 CFR Part 60, Subpart Kb	No changing attributes.
B1	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
B2	STORAGE TANKS/VESSELS	N/A	R5112-0001	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
B2	STORAGE TANKS/VESSELS	N/A	60Kb-0002	40 CFR Part 60, Subpart Kb	No changing attributes.
B2	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
F2	STORAGE TANKS/VESSELS	N/A	R5112-0004	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
F2	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
F2	STORAGE TANKS/VESSELS	N/A	63GT-WW12	40 CFR Part 63, Subpart G	Control Device Type = Boiler or process heater burning hazardous waste
F2	STORAGE TANKS/VESSELS	N/A	63GT-WW4	40 CFR Part 63, Subpart G	Control Device Type = Thermal vapor incinerator, Monitoring

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					<p>Options = Control device is using the monitoring parameters specified in Table 13 of Subpart G., Continuous Monitoring = Complying with the continuous monitoring requirements of § 63.143(e)(1) or § 63.143(e)(2) in Table 13., MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G)., NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y., Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa), Emission Control Type = Closed vent system (CVS) and control device (fixed roof), Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and less than 95%., Control Device Type = Thermal incinerator,</p>

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					<p>Design Evaluation Submitted = Results of a performance test was submitted to demonstrate compliance with 40 CFR § 63.119(e)., Closed Vent System = Closed vent system is routing emissions to a process or fuel gas system, or is subject to § 63.148 of Subpart G, Hard Piping = The closed vent system is constructed of hard piping., Bypass Lines = Closed vent system has no by-pass lines., Compliance with 40 CFR 63.139(c)(1) = The enclosed combustion device being used meets the 0.5 second residence time at 760° C provisions specified in 40 CFR § 63.139(c)(1)(iii), Performance Test = Performance tests are not conducted using the methods and procedures specified in § 63.145(i).</p>
F3	STORAGE TANKS/VESSELS	N/A	R5112-0001	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
F3	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
F3	STORAGE TANKS/VESSELS	N/A	63GT-WW12	40 CFR Part 63, Subpart G	Control Device Type = Boiler or process heater burning hazardous waste

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
F3	STORAGE TANKS/VESSELS	N/A	63GT-WW4	40 CFR Part 63, Subpart G	Control Device Type = Thermal vapor incinerator, Monitoring Options = Control device is using the monitoring parameters specified in Table 13 of Subpart G., Continuous Monitoring = Complying with the continuous monitoring requirements of § 63.143(e)(1) or § 63.143(e)(2) in Table 13., MACT Subpart F/G Applicability = The unit is a Group 1 vessel (as defined in Table 5 for existing sources or Table 6 for new sources of 40 CFR 63, Subpart G)., NESHAP Subpart Y Applicability = The unit is not subject to 40 CFR Part 61, Subpart Y., Maximum TVP = Maximum true vapor pressure of the total organic HAP in the liquid is less than 11.11 psi (76.6 kPa), Emission Control Type = Closed vent system (CVS) and control device (fixed roof), Control Device Design = The control device was not installed on or before December 31, 1992 or was not designed to reduce inlet emissions of total organic hazardous air pollutants by greater than or equal to 90% and

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
					less than 95%, Control Device Type = Thermal incinerator, Design Evaluation Submitted = Results of a performance test was submitted to demonstrate compliance with 40 CFR § 63.119(e), Closed Vent System = Closed vent system is routing emissions to a process or fuel gas system, or is subject to § 63.148 of Subpart G, Hard Piping = The closed vent system is constructed of hard piping., Bypass Lines = Closed vent system has no by-pass lines., Compliance with 40 CFR 63.139(c)(1) = The enclosed combustion device being used meets the 0.5 second residence time at 760° C provisions specified in 40 CFR § 63.139(c)(1)(iii), Performance Test = Performance tests are not conducted using the methods and procedures specified in § 63.145(i).
H1	STORAGE TANKS/VESSELS	N/A	R5112-0002	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
H1	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
H1	STORAGE	N/A	63GGG-2	40 CFR Part 63, Subpart	No changing attributes.

## Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
	TANKS/VESSELS			GGG	
H2	STORAGE TANKS/VESSELS	N/A	R5112-0002	30 TAC Chapter 115, Storage of VOCs	No changing attributes.
H2	STORAGE TANKS/VESSELS	N/A	61FF-0002	40 CFR Part 61, Subpart FF	No changing attributes.
H2	STORAGE TANKS/VESSELS	N/A	63GGG-2	40 CFR Part 63, Subpart GGG	No changing attributes.
LOAD-1	LOADING/UNLOADING OPERATIONS	N/A	R5211-0002	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia., Daily Throughput = Loading less than 20,000 gallons per day., Transfer Type = Only loading.
LOAD-1	LOADING/UNLOADING OPERATIONS	N/A	R5211-001	30 TAC Chapter 115, Loading and Unloading of VOC	True Vapor Pressure = True vapor pressure less than 0.5 psia., Transfer Type = Loading and unloading.
PRO-REGEN2	SULFURIC ACID PRODUCTION	N/A	REG2-0002	30 TAC Chapter 112, Sulfur Compounds	No changing attributes.
PRO-REGEN2	SULFURIC ACID PRODUCTION	N/A	60H-001	40 CFR Part 60, Subpart H	No changing attributes.
PRO-REGEN2	TREATMENT PROCESS	N/A	61FF-0001	40 CFR Part 61, Subpart FF	No changing attributes.
PRO-REGEN2	TREATMENT PROCESS	N/A	63GTP-WW19	40 CFR Part 63, Subpart G	No changing attributes.

### Unit Summary

Unit/Group/ Process ID No.	Unit Type	Group/Inclusive Units	SOP Index No.	Regulation	Requirement Driver
PRO-REGEN2	TREATMENT PROCESS	N/A	63GGG-1	40 CFR Part 63, Subpart GGG	No changing attributes.
PRO-UNIT8	SULFURIC ACID PRODUCTION	N/A	REG2-0001	30 TAC Chapter 112, Sulfur Compounds	No changing attributes.
PRO-UNIT8	SULFURIC ACID PRODUCTION	N/A	60H-001	40 CFR Part 60, Subpart H	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)
101	EP	R1111-0001	PM (OPACITY)	30 TAC Chapter 111, Visible Emissions	§ 111.111(a)(1)(C) § 111.111(a)(1)(E)	Visible emissions from any stationary vent shall not exceed an opacity of 15% averaged over a six minute period for any source with a total flow rate of at least 100,000 acfm unless a CEMS is installed.	[G]§ 111.111(a)(1)(F) ** See Periodic Monitoring Summary	None	None
117	EU	R7ICI-0001	NOX	30 TAC Chapter 117, Subchapter B	§ 117.300 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B
120	EU	R7ICI-0001	NOX	30 TAC Chapter 117, Subchapter B	§ 117.300 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B
128	EU	R7ICI-0002	NOX	30 TAC Chapter 117, Subchapter B	§ 117.300 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117,	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					Subchapter B				
170	EU	R71CI-0001	NOX	30 TAC Chapter 117, Subchapter B	§ 117.300 The permit holder shall comply with the applicable limitation, standard and/or equipment specification requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable monitoring and testing requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable recordkeeping requirements of 30 TAC Chapter 117, Subchapter B	The permit holder shall comply with the applicable reporting requirements of 30 TAC Chapter 117, Subchapter B
48	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.115(a) § 115.115(a)(1) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(A) § 115.118(a)(5) § 115.118(a)(7)	None
48	EU	60Kb-0002B	VOC	40 CFR Part 60, Subpart Kb	[G]§ 60.112b(a)(3)	Storage vessels specified in §60.112b(a) and equipped with a closed vent system/control device are to meet the specifications of §60.112b(a)(3)(i)-(ii).	[G]§ 60.113b(c)(1) § 60.113b(c)(2) § 60.116b(a) § 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) [G]§ 60.485(b) ** See Periodic Monitoring	§ 60.115b [G]§ 60.115b(c) § 60.116b(a) § 60.116b(b)	[G]§ 60.113b(c)(1) § 60.115b

## 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)
							Summary		
49	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.115(a) § 115.115(a)(1) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(A) § 115.118(a)(5) § 115.118(a)(7)	None
49	EU	60Kb-0002B	VOC	40 CFR Part 60, Subpart Kb	[G]§ 60.112b(a)(3)	Storage vessels specified in §60.112b(a) and equipped with a closed vent system/control device are to meet the specifications of §60.112b(a)(3)(i)-(ii).	[G]§ 60.113b(c)(1) § 60.113b(c)(2) § 60.116b(a) § 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) [G]§ 60.485(b) ** See Periodic Monitoring Summary	§ 60.115b [G]§ 60.115b(c) § 60.116b(a) § 60.116b(b)	[G]§ 60.113b(c)(1) § 60.115b
53	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control	§ 115.115(a) § 115.115(a)(1) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(A) § 115.118(a)(5) § 115.118(a)(7)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.			
53	EU	60Kb-0002	VOC	40 CFR Part 60, Subpart Kb	[G]§ 60.112b(a)(3)	Storage vessels specified in §60.112b(a) and equipped with a closed vent system/control device are to meet the specifications of §60.112b(a)(3)(i)-(ii).	[G]§ 60.113b(c)(1) § 60.113b(c)(2) § 60.116b(a) § 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) [G]§ 60.485(b) ** See Periodic Monitoring Summary	§ 60.115b [G]§ 60.115b(c) § 60.116b(a) § 60.116b(b)	[G]§ 60.113b(c)(1) § 60.115b
56	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.115(a) § 115.115(a)(1) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(A) § 115.118(a)(5) § 115.118(a)(7)	None
78	EU	R5112	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A)	No person shall place, store, or hold VOC in any storage tank unless the storage tank	§ 115.115(a) § 115.115(a)(1) § 115.116(a)(1)	§ 115.118(a)(4) § 115.118(a)(4)(A) § 115.118(a)(5)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 115.112(e)(3)(A)(i)	is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	[G]§ 115.117	§ 115.118(a)(7)	
B1	EU	R5112-0001	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None
B1	EU	60Kb-0002	VOC	40 CFR Part 60, Subpart Kb	[G]§ 60.112b(a)(3)	Storage vessels specified in §60.112b(a) and equipped with a closed vent system/control device are to meet the specifications of §60.112b(a)(3)(i)-(ii).	[G]§ 60.113b(c)(1) § 60.113b(c)(2) § 60.116b(a) § 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) § 60.116b(f)(1) [G]§ 60.485(b)	§ 60.115b [G]§ 60.115b(c) § 60.116b(a) § 60.116b(b)	[G]§ 60.113b(c)(1) § 60.115b

## 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)
							** See Periodic Monitoring Summary		
B1	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
B2	EU	R5112-0001	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None
B2	EU	60Kb-0002	VOC	40 CFR Part 60, Subpart Kb	[G]§ 60.112b(a)(3)	Storage vessels specified in §60.112b(a) and equipped with a closed vent	[G]§ 60.113b(c)(1) § 60.113b(c)(2) § 60.116b(a)	§ 60.115b [G]§ 60.115b(c) § 60.116b(a)	[G]§ 60.113b(c)(1) § 60.115b

## 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)
						system/control device are to meet the specifications of §60.112b(a)(3)(i)-(ii).	§ 60.116b(b) § 60.116b(e) § 60.116b(e)(1) [G]§ 60.116b(e)(3) § 60.116b(f)(1) [G]§ 60.485(b) ** See Periodic Monitoring Summary	§ 60.116b(b)	
B2	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
F2	EU	R5112-0004	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						paragraph for crude oil and condensate.			
F2	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(c) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
F2	EU	63GT-WW12	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(d)(4)(iii) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) [G]§ 63.148(d) § 63.148(e)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.143(a) § 63.148(b)(1)(ii) § 63.148(b)(2)(iii) § 63.148(b)(3) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	§ 63.133(h) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(6) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(c) § 63.146(g) § 63.148(j) § 63.148(j)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(3) § 63.152(c)(3)(i)

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
									§ 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
F2	EU	63GT-WW4	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(iii) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) [G]§ 63.148(d) § 63.148(e)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.139(d)(2)(i) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(1) § 63.143(f) § 63.143(g) § 63.148(b)(1)(ii) § 63.148(b)(2)(iii) § 63.148(b)(3) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	§ 63.133(h) § 63.147(b) § 63.147(b)(1) § 63.147(b)(6) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(c) § 63.146(e) § 63.146(e)(1) § 63.146(g) § 63.148(j) § 63.148(j)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(g) § 63.151(h) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G]§ 63.152(c)(2)(ii) § 63.152(c)(2)(iii) § 63.152(c)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
F2	EU	63GT-WW4	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.119(e) § 63.119(a)(1)	The owner or operator who elects to use a closed vent	§ 63.120(d)(1) § 63.120(d)(1)(ii)	§ 63.123(a) § 63.123(f)(1)	§ 63.120(d)(1)(ii)(B) § 63.120(d)(2)

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
					§ 63.119(e)(1) § 63.119(e)(3) § 63.119(e)(4) § 63.119(e)(5) [G]§ 63.148(d) § 63.148(e)	system and control device (defined in § 63.111) to comply with §63.119(a)(1) or (a)(2) shall comply with §63.119(e)(1)-(5).	§ 63.120(d)(1)(ii)(A) § 63.120(d)(5) § 63.120(d)(6) § 63.148(b)(1)(i) § 63.148(b)(1)(ii) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	[G]§ 63.123(f)(2) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.120(d)(2)(i) [G]§ 63.120(d)(2)(iii) § 63.120(d)(3) § 63.120(d)(3)(i) § 63.120(d)(3)(ii) § 63.120(d)(4) § 63.122(b) § 63.122(c)(1) [G]§ 63.122(g)(1) [G]§ 63.122(g)(2) § 63.148(j) § 63.151(a)(7) [G]§ 63.151(b) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G]§ 63.152(c)(2)(ii) § 63.152(c)(2)(iii) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
F3	EU	R5112-0001	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.			
F3	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(c) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
F3	EU	63GT-WW12	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(d)(4)(iii) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) [G]§ 63.148(d) § 63.148(e)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.143(a) § 63.148(b)(1)(ii) § 63.148(b)(2)(iii) § 63.148(b)(3) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	§ 63.133(h) § 63.147(b) § 63.147(b)(1) § 63.147(b)(2) § 63.147(b)(6) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(c) § 63.146(g) § 63.148(j) § 63.148(j)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 63.152(c)(1)

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
									§ 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
F3	EU	63GT-WW4	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.133(a)(2)(i) § 63.132(a)(2)(i)(A) § 63.132(a)(2)(i)(B) [G]§ 63.132(f) § 63.133(b)(1)(ii) § 63.133(f) § 63.133(h) § 63.139(b) § 63.139(c)(1) § 63.139(c)(1)(iii) § 63.139(f) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a) [G]§ 63.148(d) § 63.148(e)	A fixed roof and a closed-vent system that routes the organic hazardous air pollutants vapors vented from the wastewater tank to a control device.	§ 63.133(f) § 63.133(g) § 63.133(g)(3) § 63.139(d)(2)(i) § 63.139(e) § 63.143(a) § 63.143(e) § 63.143(e)(1) § 63.143(f) § 63.143(g) § 63.148(b)(1)(ii) § 63.148(b)(2)(iii) § 63.148(b)(3) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	§ 63.133(h) § 63.147(b) § 63.147(b)(1) § 63.147(b)(6) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.146(b)(2) § 63.146(b)(5) § 63.146(b)(6) § 63.146(c) § 63.146(e) § 63.146(e)(1) § 63.146(g) § 63.148(j) § 63.148(j)(1) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(g) § 63.151(h) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) [G]§ 63.152(b)(2) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G]§ 63.152(c)(2)(ii) § 63.152(c)(2)(iii) § 63.152(c)(2)(iv) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(3)(ii) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)

## 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)
F3	EU	63GT-WW4	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.119(e) § 63.119(a)(1) § 63.119(e)(1) § 63.119(e)(3) § 63.119(e)(4) § 63.119(e)(5) [G]§ 63.148(d) § 63.148(e)	The owner or operator who elects to use a closed vent system and control device (defined in § 63.111) to comply with §63.119(a)(1) or (a)(2) shall comply with §63.119(e)(1)-(5).	§ 63.120(d)(1) § 63.120(d)(1)(ii) § 63.120(d)(1)(ii)(A) § 63.120(d)(5) § 63.120(d)(6) § 63.148(b)(1)(i) § 63.148(b)(1)(ii) [G]§ 63.148(c) § 63.148(g) § 63.148(g)(2) § 63.148(h) § 63.148(h)(2)	§ 63.123(a) § 63.123(f)(1) [G]§ 63.123(f)(2) § 63.148(g)(2) § 63.148(h)(2) § 63.148(i)(1) § 63.148(i)(2) [G]§ 63.148(i)(4) § 63.148(i)(5) § 63.148(i)(6) [G]§ 63.152(a)	§ 63.120(d)(1)(ii)(B) § 63.120(d)(2) § 63.120(d)(2)(i) [G]§ 63.120(d)(2)(iii) § 63.120(d)(3) § 63.120(d)(3)(i) § 63.120(d)(3)(ii) § 63.120(d)(4) § 63.122(b) § 63.122(c)(1) [G]§ 63.122(g)(1) [G]§ 63.122(g)(2) § 63.148(j) § 63.151(a)(7) [G]§ 63.151(b) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) § 63.152(b)(4) § 63.152(c)(1) § 63.152(c)(2) § 63.152(c)(2)(i) [G]§ 63.152(c)(2)(ii) § 63.152(c)(2)(iii) § 63.152(c)(3) § 63.152(c)(3)(i) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
H1	EU	R5112-0002	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.			
H1	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(c) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(c) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
H1	EU	63GGG-2	HAPS	40 CFR Part 63, Subpart GGG	§ 63.1256(b)(1)	For each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of either paragraph (b)(1) or (2) of this section as specified in Table 6 of this subpart.	None	None	None
H2	EU	R5112-0002	VOC	30 TAC Chapter 115, Storage of VOCs	§ 115.112(e)(1) § 115.112(e)(3) § 115.112(e)(3)(A) § 115.112(e)(3)(A)(i)	No person shall place, store, or hold VOC in any storage tank unless the storage tank is capable of maintaining working pressure sufficient	§ 115.115(a) § 115.115(a)(6) § 115.116(a)(1) [G]§ 115.117	§ 115.118(a)(4) § 115.118(a)(4)(F) § 115.118(a)(5) § 115.118(a)(7)	None

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						at all times to prevent any vapor or gas loss to the atmosphere or is in compliance with the control requirements specified in Table 1 of this paragraph for VOC other than crude oil and condensate or Table 2 of subsection (a)(1) of this paragraph for crude oil and condensate.			
H2	EU	61FF-0002	BENZENE	40 CFR Part 61, Subpart FF	§ 61.343(a)(1) § 61.343(a)(1)(i)(A) § 61.343(a)(1)(i)(B) § 61.343(c) § 61.343(d) § 61.349(a) § 61.349(a)(1)(i) § 61.349(a)(1)(iii) § 61.349(a)(1)(iv) § 61.349(a)(2)(i)(C) § 61.349(b) § 61.349(e) § 61.349(f) § 61.349(g)	The owner or operator shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the tank to a control device.	§ 61.343(a)(1)(i)(A) § 61.343(e) § 61.349(a)(1)(i) § 61.349(e) § 61.349(f) § 61.354(c) § 61.354(c)(1) [G]§ 61.355(h)	§ 61.354(c) § 61.354(c)(1) § 61.356(d) § 61.356(f) § 61.356(f)(1) § 61.356(f)(2) § 61.356(f)(2)(i) § 61.356(f)(2)(i)(A) § 61.356(g) § 61.356(h) § 61.356(j) § 61.356(j)(1) § 61.356(j)(2) § 61.356(j)(3) § 61.356(j)(4)	§ 61.357(d)(7) § 61.357(d)(7)(iv) § 61.357(d)(7)(iv)(A)
H2	EU	63GGG-2	HAPS	40 CFR Part 63, Subpart GGG	§ 63.1256(b)(1)	For each wastewater tank that receives, manages, or treats affected wastewater or a residual removed from affected wastewater, the owner or operator shall comply with the requirements of either paragraph (b)(1) or (2) of this section as specified in Table 6 of this subpart.	None	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)
LOAD-1	EU	R5211-0002	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(2)(A) [G]§ 115.212(a)(7) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Any plant, excluding gasoline bulk plants, which loads less than 20,000 gpd of VOC with a true vapor pressure of 0.5 psia or greater is exempt from the requirements of this division, except for the specified requirements.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B) § 115.216(3)(D)	None
LOAD-1	EU	R5211-001	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	§ 115.217(a)(1) § 115.212(a)(2) § 115.214(a)(1)(B) § 115.214(a)(1)(D) § 115.214(a)(1)(D)(i)	Vapor pressure (at land-based operations). All land-based loading and unloading of VOC with a true vapor pressure less than 0.5 psia is exempt from the requirements of this division, except as specified.	§ 115.214(a)(1)(A) § 115.214(a)(1)(A)(i) § 115.215 § 115.215(4)	§ 115.216 § 115.216(2) § 115.216(3)(B)	None
PRO-REGEN <sub>2</sub>	EU	REG2-0002	SO <sub>2</sub>	30 TAC Chapter 112, Sulfur Compounds	§ 112.6(a)	Except as provided in §112.5 and in §112.14 no person may cause, suffer, allow, or permit emissions of SO <sub>2</sub> from any sulfuric acid plant to exceed the emission limits set by the specified equation.	§ 112.2(a) § 112.6(c)	§ 112.2(c)	§ 112.2(b)
PRO-REGEN <sub>2</sub>	EU	REG2-0002	H <sub>2</sub> SO <sub>4</sub>	30 TAC Chapter 112, Sulfur Compounds	§ 112.41(b)(2)	Sulfuric acid plants or facilities used exclusively as SO <sub>2</sub> control systems, chamber process plants, acid concentrators, or oleum storage and transfer facilities are exempt from this section.	None	None	None
PRO-REGEN <sub>2</sub>	PRO	60H-001	SO <sub>2</sub>	40 CFR Part 60, Subpart H	§ 60.82(a)	On and after the §60.8 performance test, no owner	§ 60.84(a) § 60.84(b)	None	§ 60.84(e)

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						or operator shall discharge gases containing SO <sub>2</sub> in excess of 2 kg per metric ton (4.0 lb per ton) of acid produced into the atmosphere.	§ 60.84(c) § 60.84(e) § 60.85(a) § 60.85(b)(1) § 60.85(b)(2) § 60.85(b)(3)		
PRO-REGEN <sub>2</sub>	PRO	60H-001	SO <sub>2</sub>	40 CFR Part 60, Subpart H	§ 60.82(a)	On and after the §60.8 performance test, no owner or operator shall discharge gases containing SO <sub>2</sub> in excess of 2 kg per metric ton (4.0 lb per ton) of acid produced into the atmosphere.	§ 60.84(a) § 60.84(d) § 60.84(e) § 60.85(a) § 60.85(b)(1) § 60.85(b)(2) § 60.85(b)(3) [G]§ 60.85(c)	None	§ 60.84(e)
PRO-REGEN <sub>2</sub>	PRO	60H-001	PM (OPACITY)	40 CFR Part 60, Subpart H	§ 60.83(a)(2)	No owner or operator shall discharge any gases exhibiting 10% opacity, or greater.	§ 60.85(a) § 60.85(b)(4)	None	None
PRO-REGEN <sub>2</sub>	PRO	61FF-0001	BENZENE	40 CFR Part 61, Subpart FF	§ 61.348(a)(5) § 61.348(b)(1) [G]§ 61.348(d) § 61.348(e) § 61.348(e)(1) § 61.348(e)(2)	An owner or operator that aggregates or mixes any combination of process wastewater, product tank drawdown, or landfill leachate subject to §61.342(c)(1) together with other waste streams to create a combined waste stream for the purpose of facilitating management or treatment of waste in a wastewater treatment system shall operate the wastewater treatment system in accordance with §61.348(b). These provisions apply to above- and below-ground level	§ 61.348(e)(1) [G]§ 61.354(b)	§ 61.356(e) § 61.356(e)(1) [G]§ 61.356(i)	§ 61.357(d)(7) § 61.357(d)(7)(iii)

## Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						wastewater treatment systems.			
PRO-REGEN2	PRO	63GTP-WW19	112(B) HAPS	40 CFR Part 63, Subpart G	§ 63.138(h) [G]§ 63.132(f) § 63.138(h)(1) § 63.138(h)(2)(i) § 63.138(h)(2)(ii) § 63.138(h)(3) [G]§ 63.138(k) § 63.140(a) § 63.140(b) § 63.140(c) § 63.144(a)	Treatment units in a RCRA unit option shall meet §63.138(h)(1), (h)(2), or (h)(3), and are exempt from §63.138(a)(3), §63.138(j), §63.132(a)(2)(iii) and §63.132(b)(3)(iii)	§ 63.144(b) § 63.144(b)(1) § 63.144(b)(2) § 63.144(b)(3) § 63.144(b)(4) § 63.144(b)(5) [G]§ 63.144(b)(5)(i) § 63.144(b)(5)(ii) [G]§ 63.144(b)(5)(iii) § 63.144(b)(5)(iv) § 63.144(b)(6) § 63.144(c) § 63.144(c)(1) § 63.144(c)(2) § 63.144(c)(3) § 63.144(c)(4)	§ 63.144(b)(3) § 63.144(b)(4) § 63.144(b)(5)(ii) § 63.144(c)(1) § 63.144(c)(2) § 63.144(c)(3) § 63.147(b) § 63.147(b)(7) [G]§ 63.152(a) [G]§ 63.152(f)	§ 63.146(b)(2) § 63.146(b)(4) § 63.146(b)(5) § 63.146(b)(6) [G]§ 63.151(b) § 63.151(e) § 63.151(e)(1) § 63.151(e)(2) § 63.151(e)(3) [G]§ 63.151(j) [G]§ 63.152(a) § 63.152(b) [G]§ 63.152(b)(1) § 63.152(c)(1) § 63.152(c)(4)(ii) [G]§ 63.152(c)(6)
PRO-REGEN2	EU	63GGG-1	HAPS	40 CFR Part 63, Subpart GGG	§ 63.1256(g)(4) § 63.1256(g)(13)(ii)(A)	If the Resource Conservation and Recovery Act (RCRA) option [paragraph (g)(13) of this section] or the enhanced biological treatment process for soluble HAP compounds option [paragraph (g)(10) of this section] is selected to comply with this section, neither a design evaluation nor a performance test is required.	§ 63.1256(g)(4) § 63.1257(a)(4)(iii)	None	None
PRO-UNIT8	PRO	REG2-0001	SO2	30 TAC Chapter 112, Sulfur Compounds	§ 112.5(a)	No person may cause, suffer, allow, or permit emissions of SO2 from any sulfuric acid plant burning elemental sulfur to exceed	§ 112.2(a) § 112.5(c)	§ 112.2(c)	§ 112.2(b)

### Applicable Requirements Summary

Unit Group Process ID No.	Unit Group Process Type	SOP Index No.	Pollutant	State Rule or Federal Regulation Name	Emission Limitation, Standard or Equipment Specification Citation	Textual Description (See Special Term and Condition 1.B.)	Monitoring And Testing Requirements	Recordkeeping Requirements (30 TAC § 122.144)	Reporting Requirements (30 TAC § 122.145)
						the emission limits set by the specified equation.			
PRO-UNIT8	PRO	REG2-0001	H <sub>2</sub> SO <sub>4</sub>	30 TAC Chapter 112, Sulfur Compounds	§ 112.41(b)(2)	Sulfuric acid plants or facilities used exclusively as SO <sub>2</sub> control systems, chamber process plants, acid concentrators, or oleum storage and transfer facilities are exempt from this section.	None	None	None
PRO-UNIT8	PRO	60H-001	SO <sub>2</sub>	40 CFR Part 60, Subpart H	§ 60.82(a)	On and after the §60.8 performance test, no owner or operator shall discharge gases containing SO <sub>2</sub> in excess of 2 kg per metric ton (4.0 lb per ton) of acid produced into the atmosphere.	§ 60.84(a) § 60.84(b) § 60.84(c) § 60.84(e) § 60.85(a) § 60.85(b)(1) § 60.85(b)(2) § 60.85(b)(3)	None	§ 60.84(e)
PRO-UNIT8	PRO	60H-001	SO <sub>2</sub>	40 CFR Part 60, Subpart H	§ 60.82(a)	On and after the §60.8 performance test, no owner or operator shall discharge gases containing SO <sub>2</sub> in excess of 2 kg per metric ton (4.0 lb per ton) of acid produced into the atmosphere.	§ 60.84(a) § 60.84(d) § 60.84(e) § 60.85(a) § 60.85(b)(1) § 60.85(b)(2) § 60.85(b)(3) [G]§ 60.85(c)	None	§ 60.84(e)
PRO-UNIT8	PRO	60H-001	PM (OPACITY)	40 CFR Part 60, Subpart H	§ 60.83(a)(2)	No owner or operator shall discharge any gases exhibiting 10% opacity, or greater.	§ 60.85(a) § 60.85(b)(4)	None	None

**Additional Monitoring Requirements**

**Periodic Monitoring Summary..... 49**

## Periodic Monitoring Summary

<b>Unit/Group/Process Information</b>	
ID No.: 101	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 111, Visible Emissions	SOP Index No.: R1111-0001
Pollutant: PM (OPACITY)	Main Standard: § 111.111(a)(1)(C)
<b>Monitoring Information</b>	
Indicator: Opacity	
Minimum Frequency: Once per month	
Averaging Period: Six-minutes	
Deviation Limit: An opacity greater than 15% will be reported as a deviation.	
Periodic Monitoring Text: Opacity shall be monitored, by a certified observer, for at least one, six-minute period in accordance with Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9. Any opacity readings above the deviation limit shall be reported as a deviation.	

## Periodic Monitoring Summary

<b>Unit/Group/Process Information</b>	
ID No.: 48	
Control Device ID No.: PRO-REGEN2	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002B
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation 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

<b>Unit/Group/Process Information</b>	
ID No.: 48	
Control Device ID No.: 170	Control Device Type: Vapor Combustor
Control Device ID No.: PORTVC	Control Device Type: Vapor Combustor
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002B
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °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

<b>Unit/Group/Process Information</b>	
ID No.: 49	
Control Device ID No.: PRO-REGEN2	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002B
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation 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

<b>Unit/Group/Process Information</b>	
ID No.: 49	
Control Device ID No.: 170	Control Device Type: Vapor Combustor
Control Device ID No.: PORTVC	Control Device Type: Vapor Combustor
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002B
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °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

<b>Unit/Group/Process Information</b>	
ID No.: 53	
Control Device ID No.: PRO-REGEN2	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation 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

<b>Unit/Group/Process Information</b>	
ID No.: 53	
Control Device ID No.: 170	Control Device Type: Vapor Combustor
Control Device ID No.: PORTVC	Control Device Type: Vapor Combustor
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °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

<b>Unit/Group/Process Information</b>	
ID No.: B1	
Control Device ID No.: PRO-REGEN2	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation 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

<b>Unit/Group/Process Information</b>	
ID No.: B1	
Control Device ID No.: 120	Control Device Type: Vapor Combustor
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °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

<b>Unit/Group/Process Information</b>	
ID No.: B2	
Control Device ID No.: PRO-REGEN2	Control Device Type: Thermal Incinerator (Direct Flame Incinerator/Regenerative Thermal Oxidizer)
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °F	
<p>Periodic Monitoring Text: Measure and record the combustion temperature in the combustion chamber or immediately downstream of the combustion chamber into which the volatile organic compound is introduced. The monitoring instrumentation shall be maintained, calibrated and operated in accordance with manufacturer's specifications or other written procedures. Any monitoring data below the deviation 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

<b>Unit/Group/Process Information</b>	
ID No.: B2	
Control Device ID No.: 120	Control Device Type: Vapor Combustor
<b>Applicable Regulatory Requirement</b>	
Name: 40 CFR Part 60, Subpart Kb	SOP Index No.: 60Kb-0002
Pollutant: VOC	Main Standard: [G]§ 60.112b(a)(3)
<b>Monitoring Information</b>	
Indicator: Combustion Temperature / Exhaust Gas Temperature	
Minimum Frequency: Once per week	
Averaging Period: n/a*	
Deviation Limit: Minimum Temperature = 1500 °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.

**Permit Shield**

**Permit Shield ..... 61**

## Permit Shield

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

Unit/Group/Process		Regulation	Basis of Determination
ID No.	Group/Inclusive Units		
117	N/A	40 CFR Part 60, Subpart D	Boiler was constructed prior to 08/17/1971
117	N/A	40 CFR Part 60, Subpart Db	Boiler was constructed, modified or reconstructed before June 19, 1984
49	N/A	40 CFR Part 60, Subpart K	Tank was constructed prior to 1973.
56	N/A	40 CFR Part 60, Subpart K	Tank was constructed prior to 1973.
78	N/A	40 CFR Part 60, Subpart K	Tank was constructed prior to 1973.
DIESEL	N/A	30 TAC Chapter 115, Storage of VOCs	Storage tank has less than or equal to 1000 gallon capacity.
DIESEL	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 cubic meters.
F2	N/A	40 CFR Part 60, Subpart K	Tank does not store petroleum liquids.
F3	N/A	40 CFR Part 60, Subpart K	Tank does not store petroleum liquids.
GRPCOOL	#7CT, #8CT, AUXCT, AWTCT, REGCT, TXUPCT	40 CFR Part 63, Subpart Q	Cooling towers have not operated with chromium based chemicals on or after 09/08/1994.
H1	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 cubic meters.
H2	N/A	40 CFR Part 60, Subpart Kb	Tank capacity is less than 75 cubic meters.
PIR-2	N/A	30 TAC Chapter 117, Commercial	Sulfuric acid regeneration is exempt from TAC 117 requirements.
U-8	N/A	30 TAC Chapter 117, Commercial	Molten sulfur oxidation furnace is exempt from TAC 117 requirements.

**New Source Review Authorization References**

**New Source Review Authorization References ..... 63**

**New Source Review Authorization References by Emission Unit..... 64**

## New Source Review Authorization References

The New Source Review authorizations listed in the table below are applicable requirements under 30 TAC Chapter 122 and enforceable under this operating permit.

<b>Prevention of Significant Deterioration (PSD) Permits</b>	
PSD Permit No.: PSDTX1081	Issuance Date: 06/16/2015
PSD Permit No.: PSDTX1260	Issuance Date: 02/10/2012
<b>Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.</b>	
Authorization No.: 19282	Issuance Date: 06/16/2015
Authorization No.: 4802	Issuance Date: 02/10/2012
Authorization No.: 56566	Issuance Date: 06/18/2015
Authorization No.: 92041	Issuance Date: 04/05/2010
<b>Permits By Rule (30 TAC Chapter 106) for the Application Area</b>	
Number: 106.183	Version No./Date: 09/04/2000
Number: 106.261	Version No./Date: 11/01/2003
Number: 106.262	Version No./Date: 11/01/2003
Number: 106.263	Version No./Date: 11/01/2001
Number: 106.371	Version No./Date: 03/14/1997
Number: 106.454	Version No./Date: 09/04/2000
Number: 106.472	Version No./Date: 03/14/1997
<b>Municipal Solid Waste and Industrial Hazardous Waste Permits With an Air Addendum</b>	
Permit No.: HW50095	

### 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
#7CT	#7 COOLING TOWER	106.371/03/14/1997
#8CT	#8 COOLING TOWER	106.371/03/14/1997
101	UNIT NO. 8 STACK	19282, PSDTX1081
117	PACKAGE BOILER	56566
120	TS VAPOR COMBUSTOR	4802, PSDTX1260
128	REGEN 2 PREHEATER	4802, PSDTX1260
170	REGEN2 VAPOR COMBUSTOR	4802, PSDTX1260
48	SPENT ACID TANK	4802, PSDTX1260
49	SPENT ACID TANK	4802, PSDTX1260
53	SPENT ACID TANK	4802, PSDTX1260
56	SPENT ACID TANK	4802, PSDTX1260
78	SPENT ACID TANK	4802, PSDTX1260
AUXCT	AUXILIARY COOLING TOWER	106.371/03/14/1997
AWTCT	ADVANCED WASTEWATER TREATMENT COOLING TOWER	106.371/03/14/1997
B1	HAZARDOUS WASTE TANK B1	4802, PSDTX1260
B2	HAZARDOUS WASTE TANK B2	4802, PSDTX1260
DIESEL	DIESEL TANK	106.472/03/14/1997
F2	HAZARDOUS WASTE TANK F2	4802, PSDTX1260

### 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
F3	HAZARDOUS WASTE TANK F3	4802, PSDTX1260
H1	HAZARDOUS WASTE TANK H1	4802, PSDTX1260
H2	HAZARDOUS WASTE TANK H2	4802, PSDTX1260
LOAD-1	SPENT ACID LOADING	4802, 56566, PSDTX1260
PIR-2	SPENT ACID REGENERATION UNIT 2	HW50095, 4802, PSDTX1260
PRO-REGEN2	REGEN 2 PROCESS UNIT/FURNACE	HW50095, 4802, PSDTX1260
PRO-UNIT8	UNIT NO. 8 PROCESS UNIT	19282, PSDTX1081
REGCT	REGEN COOLING TOWER	106.371/03/14/1997
TXUPCT	ULTRA PURE SULFURIC ACID COOLING TOWER	106.371/03/14/1997
U-8	UNIT 8 MOLTEN SULFUR FURNACE	19282, PSDTX1081

**Appendix A**

**Acronym List ..... 67**

## 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 <sub>2</sub> S	.....	hydrogen sulfide
ID No.	.....	identification number
lb/hr	.....	pound(s) per hour
MMBtu/hr	.....	Million British thermal units per hour
MRRT	.....	monitoring, recordkeeping, reporting, and testing
NA	.....	nonattainment
N/A	.....	not applicable
NADB	.....	National Allowance Data Base
NO <sub>x</sub>	.....	nitrogen oxides
NSPS	.....	New Source Performance Standard (40 CFR Part 60)
NSR	.....	New Source Review
ORIS	.....	Office of Regulatory Information Systems
Pb	.....	lead
PBR	.....	Permit By Rule
PM	.....	particulate matter
ppmv	.....	parts per million by volume
PSD	.....	prevention of significant deterioration
RO	.....	Responsible Official
SO <sub>2</sub>	.....	sulfur dioxide
TCEQ	.....	Texas Commission on Environmental Quality
TSP	.....	total suspended particulate
TVP	.....	true vapor pressure
U.S.C.	.....	United States Code
VOC	.....	volatile organic compound

**Appendix B**

**Major NSR Summary Tables ..... 69**

## Major NSR Summary Table

Permit Number: 19282/PSDTX1081			Issuance Date: 06/16/2015				
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.
101	Unit No. 8 Stack	CO	1.75	7.65	5	5, 8	5
		H <sub>2</sub> SO <sub>4</sub> (7)	13.00	56.94	5	2, 5, 8	5
		NO <sub>x</sub>	9.75	42.7	5	5	5
		PM	3.36	14.72		8	
		PM <sub>10</sub>	3.36	14.72		8	
		PM <sub>2.5</sub>	3.36	14.72		8	
		SO <sub>2</sub>	325.00	724.20	2, 3, 5, 6, 7	3, 5, 6, 7	5
		Ag	0.022	0.095	5	5	5
		As	0.068	0.297	5	5	5
		Ba	0.023	0.099	5	5	5
		Be	0.014	0.063	5	5	5
		Cd	0.014	0.063	5	5	5
		Cl <sub>2</sub>	0.721	3.159	5	5	5
		Cr	0.077	0.337	5	5	5
		Hg	0.0004	0.002	5	5	5
		Ni	0.061	0.267	5	5	5
		Pb	0.032	0.141	5	5	5
Sb	0.037	0.158	5	5	5		
Se	0.044	0.192	5	5	5		
Tl	0.014	0.063	5	5	5		
102	Acid Pump Tank	SO <sub>2</sub>	0.01	0.01	4	4	4
103	Natural Gas Start Up Vent (9)	CO	4.12			2	
		NO <sub>x</sub>	4.90			2	
		PM	0.37			2	
		PM <sub>10</sub>	0.37			2	
		PM <sub>2.5</sub>	0.37			2	
		SO <sub>2</sub>	0.03			2	
		VOC	0.27			2,	

105	Natural Gas Start Up Vent (9)	CO	4.12			2		
		NO <sub>x</sub>	4.90			2		
		PM	0.37			2		
		PM <sub>10</sub>	0.37			2		
		PM <sub>2.5</sub>	0.37			2		
		SO <sub>2</sub>	0.03			2		
		VOC	0.27			2		
106	Natural Gas Start Up Vent (9)	CO	4.12			2		
		NO <sub>x</sub>	4.90			2		
		PM	0.37			2		
		PM <sub>10</sub>	0.37			2		
		PM <sub>2.5</sub>	0.37			2		
		SO <sub>2</sub>	0.03			2		
		VOC	0.27			2		
	Annual Emission Cap (6) (EPNs 103, 105 and 106)	CO			0.31		2	
		NO <sub>x</sub>			0.37		2	
		PM			0.03		2	
		PM <sub>10</sub>			0.03		2	
		PM <sub>2.5</sub>			0.03		2	
		SO <sub>2</sub>			0.01		2	
		VOC			0.02		2	
CATSCNU8	Catalyst Screening (8)	PM	0.01	0.01	9	9	9	
		PM <sub>10</sub>	0.01	0.01	9	9	9	
		PM <sub>2.5</sub>	0.01	0.01	9	9	9	
FE1	Process Fugitives (5)	SO <sub>2</sub>	0.01	0.03	4	4		

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) Exempt solvent – Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound

VOC – volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

HRVOC – highly reactive volatile organic compounds as defined in 30 TAC § 115.10

IOC-U – inorganic compounds (unspeciated)

NO<sub>x</sub> – total oxides of nitrogen

SO<sub>2</sub> – sulfur dioxide

PM – particulate matter greater than 10 microns in diameters

PM<sub>10</sub> – particulate matter equal to or less than 10 microns in diameter

PM<sub>2.5</sub> – particulate matter equal to or less than 2.5 microns in diameter

CO – carbon monoxide

HAP – hazardous air pollutant as listed in § 112(b) of the Federal clean Air Act of Title 40 code of Federal Regulations Part 63, subpart C

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) 150 hours of operation on a rolling 12-month basis for EPNs 103, 105 and 106.
- (7) PSDTX1081 pollutant.
- (8) Planned maintenance, startup and shutdown activity only.
- (9) Planned startup activity only.

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

Hrs/day 24 Days/week 7 Weeks/year 52

## Major NSR Summary Table

Permit Number: 4802/PSDTX1260		Issuance Date: 2/10/2012					
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.
104	Regeneration Unit No. 2 Stack (8)	Cl <sub>2</sub>	5.70	25.00	3, 4, 5, 7, 8, 15, 17, 19	3, 4, 5, 7, 8, 15, 17, 19	5, 15, 19
		CO	0.84	0.18			
		H <sub>2</sub> SO <sub>4</sub> (10)	6.06	22.67			
		HCl	0.28	1.23			
		NO <sub>x</sub>	37.20	162.90			
		PM	4.01	12.47			
		PM <sub>10</sub>	4.01	12.47			
		PM <sub>2.5</sub>	4.01	12.47			
		SO <sub>2</sub>	1250.00	5475.00			
		VOC	0.01	0.01			
104	Regeneration Unit No. 2 Stack (9)	Cl <sub>2</sub>	5.70	25.00	3, 5, 7, 8, 15, 17, 18, 19	3, 5, 7, 8, 15, 17, 18, 19	5, 15, 19
		CO	0.01	0.05			
		H <sub>2</sub> SO <sub>4</sub> (10)	7.19	20.99			
		HCl	0.16	0.70			
		NO <sub>x</sub>	37.20	61.95			
		PM	4.01	12.47			
		PM <sub>10</sub>	4.01	12.47			
		PM <sub>2.5</sub>	4.01	12.47			
		SO <sub>2</sub>	143.75	377.78			
		VOC	0.01	0.01			
120	Vapor Combustor Standby operation for backup	CO	1.51	3.33	5	5	5
		NO <sub>x</sub>	1.80	3.96			
		PM <sub>10</sub>	0.14	0.30			
		SO <sub>2</sub>	0.01	0.02			
		VOC	0.10	0.22			
120	Vapor Combustor (6) (Startup, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	Cl <sub>2</sub>	0.14	0.09	5, 8, 13	5, 8, 11	5
		CO	0.40	0.27			
		HCl	0.06	0.04			
		NO <sub>x</sub>	0.48	0.32			
		PM <sub>10</sub>	0.04	0.02			
		SO <sub>2</sub>	0.01	0.01			

Permit Number: 4802/PSDTX1260			Issuance Date: 2/10/2012				
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates		Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
			lb/hr	TPY (4)	Spec. Cond.	Spec. Cond.	Spec. Cond.
		VOC	22.22	3.41			
128	Regenerator No. 2 Preheater (1,000 hours per rolling 12-months)	CO	2.07	1.03	6	6	
		NO <sub>x</sub>	2.46	1.23			
		PM <sub>10</sub>	0.19	0.10			
		SO <sub>2</sub>	0.02	0.01			
		VOC	0.14	0.07			
170	Vapor Combustor 2 Normal Operation	CO	4.28	0.30	5, 13, 15	5, 13, 15	5, 15
		NO <sub>x</sub>	2.15	0.15			
		SO <sub>2</sub>	0.01	0.01			
		VOC	0.08	0.01			
170	Vapor Combustor 2 (6) (Furnace Startup, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	Cl <sub>2</sub>	0.40	0.03	5, 8, 13, 15	5, 8, 12, 13, 15	5, 15
		CO	15.30	4.85			
		HCl	2.07	0.13			
		NO <sub>x</sub>	1.78	0.57			
		SO <sub>2</sub>	2.02	0.13			
		VOC	12.90	0.86			
170	Vapor Combustor 2 (6) (Storage Tanks 48, 49, 53 and 56 Planned Inspection Purge Control Option One)	CO	10.81	1.48	5, 8, 13, 15	5, 8, 13, 15	5, 15
		NO <sub>x</sub>	1.26	0.17			
		SO <sub>2</sub>	0.02	0.01			
		VOC	0.05	0.01			
CATSCNR2	Catalyst Screening for Regeneration Unit No. 2 Converter (6)	PM	0.01	0.01	8	8	
		PM <sub>10</sub>	0.01	0.01			
		PM <sub>2.5</sub>	0.01	0.01			
MSS-HAZTK1	Hazardous Waste Tanks (F2, F3) and T554, Planned MSS Purge (6)	VOC	0.02	0.01	5, 8	5, 8	5
MSS-HAZTK2	Hazardous Waste Tanks (B1, B2, H1 and H2) Planned MSS Purge (6)	VOC	0.01	0.01	5, 8	5, 8	5
TKINSPMSS1	Tank 78 Planned Inspection Purge (6)	CO	3.04	0.75	8	8	
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01			
		NO <sub>x</sub>	1.12	0.35			

Permit Number: 4802/PSDTX1260			Issuance Date: 2/10/2012				
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 <sub>2</sub>	0.08	0.09			
		VOC (7)	0.05	0.06			
TKINSPMSS2	Tanks 48, 49, 53 and 56 Planned Inspection Purge (6)	CO	3.04	0.40	8, 13	8, 13	
		C <sub>2</sub> H <sub>4</sub>	0.01	0.01			
		NO <sub>x</sub>	1.12	0.19			
		SO <sub>2</sub>	0.08	0.01			
		VOC (7)	0.05	0.01			
FE2	Process Fugitives (5)	SO <sub>2</sub>	0.05	0.20	9	9	
FE3	Process Fugitives (5)	SO <sub>2</sub>	0.01	0.03	9	9	
FE-12	Fugitives from HW Equipment (5)	VOC	0.04	0.19	5, 10	5, 10	5
FE-13	Fugitives from HW Equipment (5)	VOC	0.02	0.10	5, 10	5, 10	5
FE-14	Fugitives from HW Equipment (5)	VOC	0.01	0.01	5, 10	5, 10	5
FUG-SA1	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub>	0.41	1.79	9	9	9
		SO <sub>2</sub>	0.12	0.37			
		VOC	0.09	0.35			
FUG-SA2	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub>	0.07	0.31	9	9	9
		SO <sub>2</sub>	0.03	0.08			
		VOC	0.02	0.07			
FUG-SA3	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub>	0.03	0.11	9	9	9
		SO <sub>2</sub>	0.06	0.18			
		VOC	0.03	0.08			
FUG-SA4	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub>	0.30	1.34	9	9	9
		SO <sub>2</sub>	0.13	0.38			
		VOC	0.08	0.30			

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) C<sub>2</sub>H<sub>4</sub> - ethylene  
CO - carbon monoxide

Cl<sub>2</sub> - chlorine

H<sub>2</sub>SO<sub>4</sub> - sulfuric acid

HCl - hydrogen chloride

NO<sub>x</sub> - total oxides of nitrogen

PM - particulate matter greater than 10 microns in diameter

PM<sub>10</sub> - particulate matter (PM) equal to or less than 10 microns in diameter.

PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter

SO<sub>2</sub> - sulfur dioxide

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

- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Planned startup, shutdown, and maintenance emissions
- (7) Ethylene emissions are not included in the VOC emission total.
- (8) Pre emission control
- (9) Post emission control effective on and after April 1, 2014
- (10) PSDTX1260 pollutant

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

Hrs/day 24 Days/week 7 Weeks/year 52



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
AIR QUALITY PERMIT



A Permit Is Hereby Issued To  
**Eco Services Operations LLC**  
Authorizing the Continued Operation of  
**Houston Plant**

Located at **Houston, Harris County, Texas**  
Latitude 29° 43' 8" Longitude -95° 16' 16"

Permit: 19282, PSDTX1081

Issuance Date : June 16, 2015

Expiration Date: June 16, 2025

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 19282 and PSDTX1081

### Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.
2. Sulfur dioxide (SO<sub>2</sub>) emissions limits will be limited to the following emission rates:  
Short term - 3.0 pounds of SO<sub>2</sub> per ton of one hundred percent acid produced.  
Long term - 1.7 pounds of SO<sub>2</sub> per ton of one hundred percent acid produced.

These values correlate to hourly and yearly SO<sub>2</sub> emission rates found in the maximum allowable emissions rates table (MAERT) from Emission Point Number (EPN) 101. **(PSD) (01/08)**

These facilities shall comply with all applicable requirements shall comply with all applicable requirements of EPA regulations on Standards of Performance for New Stationary Sources promulgated for the following: **(11/11)**

- A. Emission Guidelines and Compliance Times for Sulfuric Acid Production Units in 40 CFR Part 60, Subparts A and Cd, and
- B. Sulfuric Acid Plants in 40 CFR Part 60, Subparts A and H.

The sulfur acid mist (H<sub>2</sub>SO<sub>4</sub>) mist limits are limited to 0.15 pound per ton of H<sub>2</sub>SO<sub>4</sub> EPN 101. SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> mist emission limits effective on and after July 1, 2009 shall never be relaxed. **(PSD) (12/07)**

Natural gas use for furnace heat ups are limited to 150 hours per rolling 12 months at a maximum hourly fired duty of 50 MMBtu and shall be emitted through EPNs 103, 105 and 106. Records shall be kept at the plant site and updated once every six months to demonstrate compliance with this representation. Records shall be made readily available to Texas Commission on Environmental Quality (TCEQ) personnel upon request, the U.S. Environmental Protection Agency (EPA) personnel or any applicable local program with jurisdiction. **(11/11)**

3. H<sub>2</sub>SO<sub>4</sub> production is limited to 2,600 tons per day. The holder of this permit shall keep records of the daily production of H<sub>2</sub>SO<sub>4</sub>. Records shall be made readily available to TCEQ personnel upon request, EPA personnel or any applicable local program with jurisdiction and may be used to determine compliance with the SO<sub>2</sub> emissions limitations specified in the MAERT. **(PSD) (04/10)**

## SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 2

4. Piping, Valves, Flanges, Connectors, Pumps and Compressors in Gaseous and Liquid Sulfur Dioxide (SO<sub>2</sub>) Service (12/07)
  - A. Audio, olfactory and visual checks for gas and liquid SO<sub>2</sub> leaks within the operating area shall be made once every shift. This special condition will apply upon start-up of the represented increase in H<sub>2</sub>SO<sub>4</sub> production from the October 2006 amendment submittal.
  - B. Process gas leaks shall be addressed upon detection of a gaseous SO<sub>2</sub> leak by plant personnel who shall take the following actions:
    - (1) Locate and determine the extent of the process gas leak.
    - (2) Commence to make repairs to the gas leak.
    - (3) Use a leak collection/containment system to prevent the leak until repair or replacement can be made if immediate repair is not possible.
  - C. Liquid leaks found in damaged or leaking valves, connectors and pump seals in the SO<sub>2</sub> scrubber authorized in the October 2006 amendment submittal 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 or replace 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, 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. At the discretion of the TCEQ Executive Director or designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.
  - D. 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 readily available to representatives of the TCEQ or any local program with jurisdiction upon request.

### Initial Determination of Compliance

5. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Unit No. 8 Stack designated as EPN 101. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. **(PSD) (07/07)**

## SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 3

- A. Sampling shall be conducted in accordance with Title 40 Code of Federal Regulations (40 CFR) Part 60, Appendix A, Method 7, "Determination of Nitrogen Oxide (NO<sub>x</sub>) Emissions from Stationary Sources" and Method 8, "Determination of SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> Emissions from Stationary Sources" and Method 10, "Determination of Carbon Monoxide (CO) Emissions from Stationary Sources" and other applicable testing methods.
- B. The appropriate TCEQ Regional Office in the region where the source is located and applicable local air program(s) shall be contacted as soon as testing is scheduled, but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

A written proposed description of any deviation from sampling procedures specified in permit provision or the TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures.

Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for New Source Performance Standard testing which must have EPA approval shall be submitted to the TCEQ Field Operations Division in Austin.

- C. Air contaminants emitted from the Unit No. 8 Stack to be tested for include chlorine, SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub> mist, CO, NO<sub>x</sub>, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver and thallium. These stack testing results shall be used to demonstrate compliance with Special Condition Nos. 1 and 2.

## SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 4

- D. Sampling shall occur at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires prior approval and requests shall be submitted to the TCEQ Field Operations Division in Austin.
- E. The sulfuric acid plant shall be sampled while operating at the maximum possible safe production rate (as determined by the permittee) for the H<sub>2</sub>SO<sub>4</sub> unit at the time of testing. The H<sub>2</sub>SO<sub>4</sub> production rate shall be monitored and recorded during the stack test. If the normal production rate of H<sub>2</sub>SO<sub>4</sub> from this facility exceeds by more than 10 percent the tons per day maintained during sampling, the company must notify, in writing, the appropriate TCEQ Regional Office, and the source may be subject to additional sampling to demonstrate continued compliance.
- F. Sampling reports shall comply with the attached conditions of Chapter 14 of the TCEQ Sampling Procedures Manual. The final sampling report shall be forwarded to the following within sixty days after sampling is completed:

One copy to the TCEQ Houston Regional Office.

One copy to each appropriate local air pollution control program.

One copy to the EPA Region 6 New Source Review Section in Dallas.

### Continuous Determination of Compliance

- 6. The holder of this permit shall install, calibrate, maintain and operate a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of SO<sub>2</sub> and the total gas flow rate from the Unit No. 8 Stack (EPN 101).
  - A. The CEMS calibration shall be checked daily and the CEMS shall be zeroed and spanned using cylinder gas at least once a week and corrective action taken when the results differ by greater than  $\pm 5$  percent from the tagged cylinder gas value.
  - B. The monitoring data shall be reduced to one-hour average concentrations at least once every month using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emissions rates in pounds of SO<sub>2</sub> per hour at least once every month.

## SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 5

- C. All monitoring data and quality-assurance data shall be maintained by the source for a period of two years and shall be made readily available to TCEQ personnel, EPA personnel or any local program with jurisdiction upon request. The data from the CEMS may, at the discretion of the TCEQ, EPA personnel or any local program with jurisdiction, be used to determine compliance with the SO<sub>2</sub> emission limits specified in MAERT.
- D. The CEMS must operate at all times when sulfur bearing compounds (except natural gas) are being fed to the furnace, but need not operate during CEMS breakdown, repairs for calibration checks and zero span adjustments. **(12/07)**
- E. CEMS shall be used to demonstrate compliance with the SO<sub>2</sub> emission limits as found in Special Condition No. 2. The permit holder must meet the quality assurance procedures required by 40 CFR Part 60 Appendix F or any alternate procedures specified in the Alternate Monitoring Plan (AMP) (Attachment A). **(12/07)**
  - (1) The SO<sub>2</sub>CEMS shall monitor and record the three hour arithmetic average (not weighted by production volume) SO<sub>2</sub> emission rate in units of pounds per ton of one hundred percent acid produced.
  - (2) The SO<sub>2</sub> CEMS shall monitor and record the SO<sub>2</sub> emission rate averaged (arithmetic average, not weighted by production) over all operation hours in each 365 day period in units of pounds per ton of one hundred percent acid produced.
  - (3) Implementation of the monitoring requirements has been defined in the AMP for the SO<sub>2</sub> CEMS system.
  - (4) The AMP supersedes the corresponding SO<sub>2</sub> monitoring requirements of NSPS Subpart H.
  - (5) All steps necessary to avoid CEMS breakdowns and minimize CEMS down time must be taken. This shall include, but is not limited to, operating and maintaining the CEMS in accordance with best practices and maintaining an on-site inventory of spare parts or other supplies necessary to make rapid repairs of the equipment.
  - (6) In the event of a CEMS downtime lasting longer than twenty-four hours, the permittee shall demonstrate compliance with the emission limits established in Special Condition No. 2 according to the procedures specified in the AMP.

## SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 6

7. The minimum liquid flow to the second stage of the absorber shall be 600 gallons per minute (gpm). The circulation rate shall be monitored and recorded at least once a day. **(11/11)**

The liquid flow rate shall be recorded at least once an hour.

The flow 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 2 percent of span or 5 percent of the design value.

The minimum pH of the scrubbing solution downstream of the Brinks mist filter is 5.0. This pH shall be analyzed and recorded at least once a day.

Each monitoring device shall be cleaned with an automatic cleaning system, or cleaned weekly using hydraulic, chemical or mechanical cleaning. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least weekly, whichever is more frequent, and shall be accurate to within 0.5 pH unit.

Quality-assured (or valid) data must be generated when the facility generating emissions 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 hours) 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.

8. The following requirements apply to capture systems for EPN 101. **(07/07)**
  - A. The permit holder shall 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;
  - B. The control device shall not have a bypass.
  - C. If any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.

SPECIAL CONDITIONS

Permit Numbers 19282 and PSDTX1081

Page 7

Planned Maintenance, Startup and Shutdown

9. Catalyst converter planned MSS activity is limited to 512 hours per rolling twelve months from EPN CATSCNU8. Planned MSS generated particulate emissions shall be directed to a bag filter. Outlet bag filter grain loading shall be limited to a maximum of 0.01 grains per dry standard cubic foot. **(11/11)**

Only these planned MSS activities described in this condition are authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the maintenance, start-up, and shutdown (MAERT). The performance of each planned maintenance activity and emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information: **(11/11)**

- (1) The physical location at which emissions from the planned MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;
- (2) The type of planned MSS activity and the reason for the planned activity;
- (3) The common name and the facility identification number of the facilities at which the planned MSS activity and emissions occurred;
- (4) The date and time of the planned MSS activity and its duration;
- (5) 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 amendment application, PI-1 dated July 28, 2011, consistent with good engineering practice.

Dated November 22, 2011

## **ATTACHMENT A**

### **Alternative Monitoring Plan for SO<sub>2</sub> Emissions Rhodia Inc. Houston, Texas Unit 8 Single Absorption Sulfuric Acid Plant with Scrubber**

#### **Justification for Using an Alternative Monitoring Plan (AMP) for SO<sub>2</sub> emissions**

Sulfur dioxide emissions from the Houston 8 sulfuric acid unit will be monitored in accordance with the requirements of the existing NSPS for sulfuric acid plants except as noted in this AMP. The CEMS will demonstrate compliance on a real-time basis with the SO<sub>2</sub> emissions standard (as lbs of SO<sub>2</sub> per ton of 100% sulfuric acid produced) using stack SO<sub>2</sub> and O<sub>2</sub> analyzers. The purpose of this AMP is to document the calculation methods that will be utilized to demonstrate compliance with regulations as modified by the Consent Decree.

#### **Definitions**

"CEMS" or "Continuous Emission Monitoring System" shall mean equipment that continuously measures and records the concentration and/or emission rate of a pollutant, in the units specified by the emission limit concerned.

"Long-Term Limit" shall mean a sulfur dioxide (SO<sub>2</sub>) emission limit for a sulfuric acid plant expressed as pounds per ton of 100% sulfuric acid produced ("lbs/ton"), averaged over all Operating Hours in a rolling 365-day period.

"Malfunction" shall mean, consistent with 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in part by poor maintenance or careless operation.

"Operating Hours" shall mean periods during which sulfur or sulfur-bearing compounds, excluding conventional fossil fuels such as natural gas or fuel oil, are being fed to the furnace.

"Short-Term Limit" shall mean the SO<sub>2</sub> emission limit for each sulfuric acid plant expressed as pounds per ton of 100% sulfuric acid produced ("lbs/ton"), averaged over each rolling 3-hour period. Except for periods of Startup, Shutdown and Malfunction, the Short-Term Limits established under this Consent Decree shall apply at all times.

"Shutdown" shall mean the cessation of operation of a sulfuric acid plant for any reason. Shutdown begins at the time sulfur or sulfur-bearing feeds, excluding conventional fossil fuels such as natural gas or fuel oil, to the furnace ceases.

“Startup” shall mean the 24-hour period at any sulfuric acid plant beginning when the feed of sulfur or sulfur-bearing materials, excluding conventional fossil fuels such as natural gas or fuel oil, to the furnace commences after a main gas blower shutdown.

**Part 60.84 Emissions Monitoring.**

Compliance with the Long-Term Limit and Short-Term Limit defined by the Consent Decree will be demonstrated using SO<sub>2</sub> and O<sub>2</sub> analyzers at the exit stack using the following equation. Refer to additional discussion below the equation for specific details related to data input and calculation.

Equation 1

$$Xe = (0.209 - MO_2 - MSO_2) / (0.209 - MO_2 + 0.186 \times MSO_2)$$

$$E = (K / Xe) - K$$

Where:

Xe = fractional conversion efficiency

MO<sub>2</sub> = fractional concentration of O<sub>2</sub> at the stack, dry basis

MSO<sub>2</sub> = fractional concentration of SO<sub>2</sub> at the stack, dry basis

E = SO<sub>2</sub> emission rate in lb / ton of 100 % acid produced

K = 1306 = (2000 lb / ton ) x (64 lb / lbmol SO<sub>2</sub>)/(98 lb / lbmol H<sub>2</sub>SO<sub>4</sub>)

Short-Term Limit

The following procedure and calculation will be performed once every five minutes during all Operating Hours, except periods of Startup, Shutdown or Malfunction, to demonstrate compliance with the Short-Term Limit for SO<sub>2</sub>.

- At any given time the system will maintain an array consisting of the 36 most recent samples of the O<sub>2</sub> and SO<sub>2</sub> concentrations at the exit stack.
- Once every five minutes, the system will sample the latest O<sub>2</sub> and SO<sub>2</sub> concentrations, add the recent readings to the array and delete the oldest readings. If the unit is not operating then the array of data will not change.
- MO<sub>2</sub><sub>3hravg</sub> will then be calculated as the arithmetic average of the 36 most recent data samples for the fractional concentration of O<sub>2</sub> at the stack (MO<sub>2</sub><sub>3hravg</sub>).

## ATTACHMENT A

Permit Numbers 19282 and PSDTX1081

Page 3

- $MSO2_{3hravg}$  will then be calculated as the arithmetic average of the 36 most recent data samples for the fractional concentration of  $SO_2$  at the stack ( $MSO2_{3hravg}$ ).
- The rolling 3 hour average  $SO_2$  emissions ( $E_{3hravg}$ ) will then be calculated per Equation 2.

Equation 2 (rolling 3 hour average  $SO_2$  emissions)

$$Xe_{3hravg} = (0.209 - MO2_{3hravg} - MSO2_{3hravg}) / (0.209 - MO2_{3hravg} + 0.186 \times MSO2_{3hravg})$$

$$E_{3hravg} = (K / Xe_{3hravg}) - K$$

- The production unit will be deemed to be operating in compliance with the Short Term Limit if  $E_{3hr-avg}$  does not exceed 3.0 lb of  $SO_2$  per ton of 100% sulfuric acid produced during all Operating Hours except periods of Startup, Shutdown or Malfunction.

During routine calibration checks and adjustments of the  $O_2$  or  $SO_2$  monitors, the  $O_2$  or  $SO_2$  measurement will be “frozen” at its pre-calibration level. Refer to System Maintenance and Malfunction for guidance during CEMS malfunctions, breakdowns, and repairs.

### Long-Term Limit

The following method will be used to calculate the daily average lb of  $SO_2$  per ton of 100% sulfuric acid, and the number of Operating Hours for the calendar day.

- Once every five minutes during all Operating Hours, the  $O_2$  and  $SO_2$  concentrations at the exit stack will be sampled and this time will be counted as five operating minutes. If the unit is not operating, then the  $O_2$  and  $SO_2$  concentrations will not be sampled.
- The daily average will be calculated as follows for each calendar day:
  - o  $MO2_{daily\ avg}$  will be calculated as the arithmetic average of the sample population for the fractional concentration of  $O_2$  at the stack.
  - o  $MSO2_{daily\ avg}$  will be calculated as the arithmetic average of the sample population for the fractional concentration of  $SO_2$  at the stack
  - o  $E_{(daily\ avg)}$  will then be calculated using Equation 3.

Equation 3 (daily average  $SO_2$  emissions)

$$Xe_{daily\ avg} = (0.209 - MO2_{daily\ avg} - MSO2_{daily\ avg}) / (0.209 - MO2_{daily\ avg} + 0.186 \times MSO2_{daily\ avg})$$

$$E_{daily\ avg} = (K / Xe_{daily\ avg}) - K$$

- The number of operating minutes for the day will be summed ( $T_{day}$  , )
- $E_{dayavg}$  and  $T_{day}$  will be used to calculate a 365-day rolling average of lb/ton. The daily averages will be weighted by the number of operating minutes per day, as per Equation 4.

Once the system has been in operation for 365 days, compliance with the Long Term Limit (365-day rolling average) SO<sub>2</sub> emission rate will be calculated using Equation 4.

Equation 4

$$E_{365avg} = \frac{\sum [E_{dayavg} * T_{day}]}{\sum T_{day}}$$

The production unit will be deemed to be operating in compliance with the Long-Term Limit if  $E_{365avg}$  does not exceed 1.7 lb of SO<sub>2</sub> per ton of 100% sulfuric acid produced during all Operating Hours

During routine calibration checks and adjustments of the O<sub>2</sub> or SO<sub>2</sub> monitors, the O<sub>2</sub> or SO<sub>2</sub> measurement will be “frozen” at its pre-calibration level. Refer to System Maintenance and Malfunction for guidance during CEMS malfunction, breakdowns, and repairs:

**Pt. 60.84 Emissions Monitoring Pt. 60, App. B, Spec. 2, Section 6.0 (Stack Analyzers)**

Rhodia proposes to use the following stack analyzer specifications to satisfy the requirements of Pt. 60.84 and Pt. 60, App. B, Spec. 2, Section 6.0. The stack analyzer span must be capable of accommodating elevated emissions during startup.

An equivalent analyzer may be substituted for any reason.

Location	Manufacturer	Model Number	Range
Stack SO <sub>2</sub>	Ametek Photometric Analyzer (or equivalent)	920 (or equivalent)	Dual range: Normal: 0 – 500 ppm SO <sub>2</sub> SSM: 0 – 3,600 ppm SO <sub>2</sub>
Stack O <sub>2</sub>	Ametek Oxygen Analyzer (or equivalent)	920 (or equivalent)	Single range: 0 – 20.9 % O <sub>2</sub>

**Pt. 60, App. B, Spec. 2, Section 1.0 (Stack Analyzers)**

Initial compliance certification required only if the analyzer is replaced or if system modifications require one to be performed. Additional detail and exceptions noted below under System Modifications below.

**System Maintenance and Malfunction**

Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments), the plant shall conduct monitoring in continuous operation during all Operating Hours as defined above

In the event of a CEMS malfunction of greater than 24 hours:

- SO<sub>2</sub> in the exit stack gas will be sampled and analyzed at least once per hour, during all Operating Hours. Sampling will be conducted by Reich test or other method (e.g. portable analyzer).
- O<sub>2</sub> in the exit stack gas will be sampled and analyzed at least once per hour, during all Operating Hours. Sampling will be conducted by Orsat test or other method (e.g. portable analyzer)
- Compliance with the Short-Term Limit and Long-Term Limit shall be verified by using these data and Equations 2, 3, and 4 with the following exception. Given that one or both of the stack CEMS is out of service, the most recent hourly reading(s) will be substituted for the 12 (24) five-minute readings that would otherwise be taken if the system was operating normally

In the event of an analyzer malfunction, a like-kind replacement may be used while repairs are being made. A cylinder gas audit (CGA) must be performed on the replacement analyzer as soon as is practicable after it is placed in service. The daily calibration drift requirement would also apply to the replacement analyzer.

**System Modifications**

Significant replacement, modification, or change in certified CEMS equipment may require a complete recertification. If a recertification is required, it will be conducted within 90 days. Examples include:

- Change in location or orientation of the sampling probe or site
- Complete replacement of an existing continuous emission monitoring system.

When replacing components that can alter the physical characteristics or conditioning of the sample in the field, a CGA is required. The following activities will require a CGA to be performed before returning the analyzer to service.

- Replacement of the analyzer
- Detector replacement
- Replacement of equipment associated with the detector

The following activities are not expected to trigger a CGA. However, it is recommended that a Calibration Drift check be performed before returning to service.

- Filter replacement
- Data Recorder Repairs
- Tubing replacement

General guidance: When replacing components or devices that do not affect the physical characteristics or handling of the gas in the field such as data recorders, a CGA is not required. A calibration drift check normally should be conducted. If the repaired component affects the transport of the gas to the analyzer, such as replacing tubing, a leak check should be conducted.

Dated November 22, 2011

Emission Sources - Maximum Allowable Emission Rates

Permit Number 19282

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)
101	Unit No. 8 Stack	CO	1.75	7.65
		H <sub>2</sub> SO <sub>4</sub> (7)	13.00	56.94
		NO <sub>x</sub>	9.75	42.7
		PM	3.36	14.72
		PM <sub>10</sub>	3.36	14.72
		PM <sub>2.5</sub>	3.36	14.72
		SO <sub>2</sub>	325.00	724.20
		Ag	0.022	0.095
		As	0.068	0.297
		Ba	0.023	0.099
		Be	0.014	0.063
		Cd	0.014	0.063
		Cl <sub>2</sub>	0.721	3.159
		Cr	0.077	0.337
		Hg	0.0004	0.002
		Ni	0.061	0.267
		Pb	0.032	0.141
Sb	0.037	0.158		
Se	0.044	0.192		
Tl	0.014	0.063		

## Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
102	Acid Pump Tank	SO <sub>2</sub>	0.01	0.01
103	Natural Gas Start Up Vent (9)	CO	4.12	
		NO <sub>x</sub>	4.90	
		PM	0.37	
		PM <sub>10</sub>	0.37	
		PM <sub>2.5</sub>	0.37	
		SO <sub>2</sub>	0.03	
		VOC	0.27	
105	Natural Gas Start Up Vent (9)	CO	4.12	
		NO <sub>x</sub>	4.90	
		PM	0.37	
		PM <sub>10</sub>	0.37	
		PM <sub>2.5</sub>	0.37	
		SO <sub>2</sub>	0.03	
		VOC	0.27	
106	Natural Gas Start Up Vent (9)	CO	4.12	
		NO <sub>x</sub>	4.90	
		PM	0.37	
		PM <sub>10</sub>	0.37	
		PM <sub>2.5</sub>	0.37	
		SO <sub>2</sub>	0.03	
		VOC	0.27	
	Annual Emission	CO		0.31

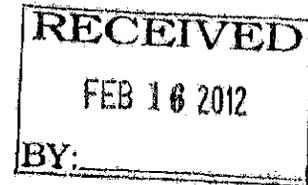
## Emission Sources - Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
	Cap (6) (EPNs 103, 105 and 106)	NOx		0.37
		PM		0.03
		PM10		0.03
		PM2.5		0.03
		SO2		0.01
		VOC		0.02
CATSCNU8	Catalyst Screening (8)	PM	0.01	0.01
		PM10	0.01	0.01
		PM2.5	0.01	0.01
FE1	Process Fugitives (5)	SO2	0.01	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) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- HRVOC - highly reactive volatile organic compounds as defined in 30 TAC § 115.10
- IOC-U - inorganic compounds (unspeciated)
- NO<sub>x</sub> - total oxides of nitrogen
- SO<sub>2</sub> - sulfur dioxide
- PM - total particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>, as represented
- PM<sub>10</sub> - total particulate matter equal to or less than 10 microns in diameter, including PM<sub>2.5</sub>, as represented
- PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- CO - carbon monoxide
- HAP - hazardous air pollutant as listed in § 112(b) of the Federal Clean Air Act or Title 40 Code of Federal Regulations Part 63, Subpart C
- (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.

Date: September 14, 2012

Bryan W. Shaw, Ph.D., *Chairman*  
Buddy Garcia, *Commissioner*  
Carlos Rubinstein, *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



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

February 10, 2012

MR FLOYD DICKERSON  
ENVIRONMENTAL MANAGER  
RHODIA INC  
8615 MANCHESTER ST  
HOUSTON TX 77012-2142

Re: Permit Amendment Application  
Permit Numbers: 4802 and PSDTX1260  
Regeneration Unit No 2  
Houston, Harris County  
Regulated Entity Number: RN100220581  
Customer Reference Number: CN600125330  
Account Number: HG-0697-O

Dear Mr. Dickerson:

This is in response to your letter received June 6, 2011 and your Form PI-1 (General Application for Air Preconstruction Permits and Amendments) concerning the proposed amendment to Permit Number 4802 and issuance of Permit PSDTX1260. We understand you propose to increase daily sulfuric acid production, install a caustic scrubber to reduce existing sulfur dioxide emissions and authorize increased sulfuric acid mist emissions.

As indicated in Title 30 Texas Administrative Code § 116.116(b) [30 TAC § 116.116(b)], and based on our review, Permit Number 4802 is hereby amended and Permit Number PSDTX1260 is issued. This information will be incorporated into the existing permit file. Enclosed are revised special conditions pages and a maximum allowable emission rates (MAERT) table to replace those currently attached to your permit. We appreciate your careful review of the special conditions of the permit and assuring that all requirements are consistently met.

Planned maintenance, startup, and shutdown for the sources identified on the MAERT have been reviewed and included in the MAERT and specific maintenance activities are identified in the permit special conditions. Any other maintenance activities are not authorized by this permit and will need to obtain separate authorization.

Mr. Floyd Dickerson  
Page 2  
February 10, 2012

Re: Permit Numbers: 4802 and PSDTX1260

This amendment will be automatically void upon the occurrence of any of the following, as indicated in 30 TAC § 116.120(a):

1. Failure to begin construction of the changes authorized by this amendment within 18 months from the date of this authorization.
2. Discontinuance of construction of the changes authorized by this amendment for a period of 18 consecutive months or more.
3. Failure to complete the changes authorized by this amendment within a reasonable time.

Upon request, the executive director may grant extensions as allowed in 30 TAC § 116.120(b).

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6.

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

[www.tceq.texas.gov/compliance/compliance\\_support/qa/env\\_lab\\_accreditation.html](http://www.tceq.texas.gov/compliance/compliance_support/qa/env_lab_accreditation.html)

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at [labprgms@tceq.texas.gov](mailto:labprgms@tceq.texas.gov).

You may file a **motion to overturn** with the Chief Clerk. A motion to overturn is a request for the commission to review the executive director's decision. Any motion must explain why the commission should review the executive director's decision. According to 30 TAC § 50.139, an action by the executive director is not affected by a motion to overturn filed under this section unless expressly ordered by the commission.

A motion to overturn must be received by the Chief Clerk within 23 days after the date of this letter. An original and 11 copies of a motion must be filed with the Chief Clerk in person, or by mail to the Chief Clerk's address on the attached mailing list. On the same day the motion is transmitted to the Chief Clerk, please provide copies to the applicant, the executive director's attorney, and the Public Interest Counsel at the addresses listed on the attached mailing list. If a motion to overturn is not acted on by the commission within 45 days after the date of this letter, then the motion shall be deemed overruled.

Mr. Floyd Dickerson

Page 3

February 10, 2012

Re: Permit Numbers: 4802 and PSDTX1260

You may also request **judicial review** of the executive director's approval. According to Texas Health and Safety Code § 382.032, a person affected by the executive director's approval must file a petition appealing the executive director's approval in Travis County district court within 30 days after the effective date of the approval. Even if you request judicial review, you still must exhaust your administrative remedies, which includes filing a motion to overturn in accordance with the previous paragraphs.

Your cooperation in this matter is appreciated. If you need further information or have any questions, please contact Mr. Stephen E. Anderson, P.E. at (512) 239-1287 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.

This action is taken under authority delegated by the Executive Director of the TCEQ.

Sincerely,



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

MPW/SEA

Enclosures

cc: Air Section Manager, Region 12 - Houston  
Director, Environmental Public Health Division, Harris County Public Health and  
Environmental Services, Pasadena  
Bureau Chief Pollution Control & Prevention, Environmental Health Division, Houston  
Department of Health and Human Services, Houston  
Air Permits Section Chief, New Source Review, Section (6PD-R), U.S. Environmental  
Protection Agency, Region 6, Dallas

Project Numbers: 166270 and 166724

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



## AIR QUALITY PERMIT

A PERMIT IS HEREBY ISSUED TO

Rhodia, Inc.

AUTHORIZING THE CONTINUED OPERATION OF

Regeneration Unit Number 2

LOCATED AT Houston, Harris County, Texas

LATITUDE 29° 43' 16" LONGITUDE 095° 16' 17"



1. **Facilities covered by this permit shall be constructed and operated as specified in the application for the permit. All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. Variations from these representations shall be unlawful unless the permit holder first makes application to the Texas Commission on Environmental Quality (commission) Executive Director to amend this permit in that regard and such amendment is approved. [Title 30 Texas Administrative Code § 116.116 (30 TAC § 116.116)]**
2. **Voiding of Permit.** A permit or permit amendment is automatically void if the holder fails to begin construction within 18 months of the date of issuance, discontinues construction for more than 18 months prior to completion, or fails to complete construction within a reasonable time. Upon request, the executive director may grant an 18-month extension. Before the extension is granted the permit may be subject to revision based on best available control technology, lowest achievable emission rate, and netting or offsets as applicable. One additional extension of up to 18 months may be granted if the permit holder demonstrates that emissions from the facility will comply with all rules and regulations of the commission, the intent of the 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% of the estimated total cost of the project up to a maximum of \$5 million. A permit holder granted an extension under subsection (b)(1) of this section may receive one subsequent extension if the permit holder meets the conditions of subsection (b)(2) of this section. [30 TAC § 116.120(a), (b) and (c)]
3. **Construction Progress.** Start of construction, construction interruptions exceeding 45 days, and completion of construction shall be reported to the appropriate regional office of the commission not later than 15 working days after occurrence of the event. [30 TAC § 116.115(b)(2)(A)]
4. **Start-up Notification.** The appropriate air program regional office shall be notified prior to the commencement of operations of the facilities authorized by the permit in such a manner that a representative of the commission may be present. The permit holder shall provide a separate notification for the commencement of operations for each unit of phased construction, which may involve a series of units commencing operations at different times. Prior to operation of the facilities authorized by the permit, the permit holder shall identify to the Office of Permitting, Remediation, and Registration the source or sources of allowances to be utilized for compliance with Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program). [30 TAC § 116.115(b)(2)(B)]
5. **Sampling Requirements.** If sampling is required, the permit holder shall contact the commission's Office of Compliance and Enforcement prior to sampling to obtain the proper data forms and procedures. All sampling and testing procedures must be approved by the executive director and coordinated with the regional representatives of the commission. The permit holder is also responsible for providing sampling facilities and conducting the sampling operations or contracting with an independent sampling consultant. [30 TAC § 116.115(b)(2)(C)]
6. **Equivalency of Methods.** The permit holder must demonstrate or otherwise justify the equivalency of emission control methods, sampling or other emission testing methods, and monitoring methods proposed as alternatives to methods indicated in the conditions of the permit. Alternative methods shall be applied for in writing and must be reviewed and approved by the executive director prior to their use in fulfilling any requirements of the permit. [30 TAC § 116.115(b)(2)(D)]
7. **Recordkeeping.** The permit holder shall maintain a copy of the permit along with records containing the information and data sufficient to demonstrate compliance with the permit, including production records and operating hours; keep all required records in a file at the plant site. If, however, the facility normally operates unattended, records shall be maintained at the nearest staffed location within Texas specified in the application; make the records available at the request of personnel from the commission or any air pollution control program having jurisdiction; 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 §§ 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 are 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 be appealed pursuant to 30 TAC § 50.139.
12. This permit may not be transferred, assigned, or conveyed by the holder except as provided by rule. [30 TAC § 116.110(e)]
13. 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)]
14. Emissions from this facility must not cause or contribute to a condition of "air pollution" as defined in TCAA § 382.003(3) or violate TCAA § 382.085, as codified in the Texas Health and Safety Code. 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.

PERMIT 4802

Date: August 24, 2005

A handwritten signature in black ink, appearing to read "Glenn Shankle".

Glenn Shankle  
Executive Director  
Texas Commission on Environmental Quality

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

### Emission Standards

1. This permit authorizes emissions only from those points listed in the attached table entitled "Emission Sources- Maximum Allowable Emission Rates," and the facilities covered by this permit are authorized to emit subject to the emission rate limits on that table and other operating conditions specified in this permit.
2. Complaints from affected persons of nuisance odors from the site verified by the Texas Commission on Environmental Quality (TCEQ) or any air pollution control agency with appropriate jurisdiction shall be the basis for requiring prompt remedial action to eliminate such odors. The TCEQ may require these facilities to implement one or more of the following measures: temporary production curtailment; temporary shutdown during adverse meteorological conditions; install any additional controls that are necessary to control odor emissions, etc., according to a schedule determined by TCEQ. **(08/10)**
3. The sulfur dioxide (SO<sub>2</sub>) emissions from Regeneration Unit No. 2 shall not exceed 15 tons measured over any continuous 24-hour period prior to April 1, 2014. The holder of this permit shall maintain equipment as described in its permit application which will automatically cause the operation of Regeneration Unit No. 2 to cease if the SO<sub>2</sub> emissions exceed for a 30-minute period at a rate which would cause more than 15 tons of SO<sub>2</sub> to be emitted over a 24-hour period prior to April 1, 2014. **(02/12)**

SO<sub>2</sub> emission limits will be limited to the following emission rates: **(02/12)**

Short term: 3.0 pounds of SO<sub>2</sub> per ton of one hundred percent acid produced.

Long term: 1.8 pounds of SO<sub>2</sub> per ton of one hundred percent acid produced.

Long term SO<sub>2</sub> emission limits will become effective 365 days from April 1, 2014.

H<sub>2</sub>SO<sub>4</sub> mist is limited to 0.15 pound per ton of produced H<sub>2</sub>SO<sub>4</sub> on an hourly maximum basis and 0.10 pound per ton of produced H<sub>2</sub>SO<sub>4</sub> on an annual average basis prior to April 1, 2014 from EPN 104. EPN 104 shall be permanently shut down prior to April 1, 2014. H<sub>2</sub>SO<sub>4</sub> mist is limited to 0.15 pound per ton of produced H<sub>2</sub>SO<sub>4</sub> on an hourly maximum basis and 0.10 pounds per ton of produced H<sub>2</sub>SO<sub>4</sub> on an annual average basis on and after April 1, 2014 from EPN 104 upon installation completion of the proposed emission abatement equipment. New EPN 104 shall be operable on and after April 1, 2014. **(02/12) (PSD)**

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 2

Failure to install this emission abatement equipment by April 1, 2014 shall require operation of these permitted facilities to cease and these permitted facilities shall not operate until this abatement equipment is installed and operating properly. **(02/12) (PSD)**

H<sub>2</sub>SO<sub>4</sub> production is limited 969 tons per day prior to completion of installation and operation of the represented emission abatement equipment pursuant to this special condition. The increase in H<sub>2</sub>SO<sub>4</sub> production to 1,150 tons per day shall not be effective until all represented emission abatement equipment required by this special condition is completely installed and operating properly. **(02/12) (PSD)**

The holder of this permit shall keep records of the daily production of H<sub>2</sub>SO<sub>4</sub> and the one-hour SO<sub>2</sub> emissions rates for each day before and after completion of installation of the emission abatement equipment required by this special condition. Records shall be made readily available to TCEQ personnel upon request, the U.S. Environmental Protection Agency (EPA) personnel or any applicable local program with jurisdiction and may be used to determine compliance with the SO<sub>2</sub> emissions limitations specified in the maximum allowable emissions rates table (MAERT). **(02/12) (PSD)**

4. Opacity of emissions from the Unit No. 2 Stack shall not exceed 20 percent averaged over a five-minute period up to April 1, 2014.

### Federal Program Requirements

5. These facilities shall comply with all applicable requirements of EPA regulations on Standards of Performance for New Stationary Sources promulgated for the following: **(02/12)**
  - A. Emission Guidelines and Compliance Times for Sulfuric Acid Production Units in 40 CFR Part 60, Subparts A and Cd.
  - B. Standards of Performance for Sulfuric Acid Plants in 40 CFR Part 60, Subparts A and H.
  - C. Volatile Organic Liquid Storage Vessels in 40 CFR Part 60, Subparts A and Kb only apply to Storage Tanks 48, 49, 53, B1 and B2.

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 promulgated for Benzene Waste Operations in Title 40 Code of Federal

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 3

Regulations (40 CFR) Part 61, Subparts A and FF.

These facilities shall comply with all applicable requirements of Title 30 Texas Administrative Code (30 TAC) § 113.120 (including the referenced requirements contained in 40 CFR Part 63, Subpart G, § 113.550 (including the referenced requirements contained in 40 CFR Part 63 Subpart XX) and 113.640 (including the referenced requirements contained in 40 CFR Part 63, Subpart GGG). **(12/08)**

### Operational Requirements

6. The No. 2 regeneration heater is limited to 1,000 hours per rolling 12-months of operation. Fuel for this heater is limited to pipeline-quality, sweet natural gas as defined in 30 TAC Chapter 101. Records shall be updated quarterly to demonstrate compliance with this special condition.
7. The use of compounds at the Regeneration Unit No. 2 (EPN 104) is limited to those identified in the attached Approved Chemical List. Modifications or construction of new facilities at this site that result in emission increases of one or more chemicals in the Approved Chemical List dated February 2012, or from chemicals currently in use and previously authorized through this special condition can only be approved through use of this special condition. Any construction of new equipment that occurs through the use of adding a new chemical is not allowed through this special condition. New chemical(s) may also be added through use of a permit by rule claim and/or registration under 30 TAC Chapter 106 or use of the qualified facilities requirements in 30 TAC Chapter 116. **(02/12)**
  - A. Short-term (pounds per hour [lb/hr]) and annual (tons per year) emissions and calculations shall be completed for each chemical at each affected source; emission rates shall be calculated in accordance with the methods documented in the permit amendment application (PI-1 dated September 4, 2003). The calculated emission rates shall not exceed the maximum allowable emission rate at any emission point.
  - B. The Effect Screening Level (ESL) for the chemical shall be obtained from the current Texas Commission on Environmental Quality (TCEQ) ESL list or by written request to the TCEQ Toxicology Division.
  - C. The total emissions of any compound from all emission points in this permit must satisfy one of the following conditions:

SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 4

- (1) The total maximum emission rate from all sources is less than 0.04 lb/hr and the ESL greater than  $2 \text{ ug/m}^3$ ; or
- (2) Case specific criteria based on modeling performed on July 30, 2004.

$$(ER/ESL)_N \leq (ER/ESL)_E$$

$(ER/ESL)_N$  = plant-wide maximum hourly emission rate based on maximum vapor pressure of new compound(s) divided by its ESL.

$(ER/ESL)_E$  = the highest ratio of any previously authorized compounds plant-wide hourly emission rate based on maximum vapor pressure divided by its ESL (i.e., 0.261).

D. The permit holder shall maintain records of the information below and the demonstrations in steps A through C above. The following documentation is required for each compound:

- (1) Chemical name(s), composition, and chemical abstract registry number if available.
- (2) Molecular weight.
- (3) Storage tanks, loading areas, and loading fugitive areas where the material is to be handled and the emission control device to be utilized.
- (4) Date new compound handling commenced.
- (5) Material Safety Data Sheet.
- (6) A copy of the referenced July 2004, modeling report shall be kept on-site and made available to TCEQ personnel and any local air pollution program with jurisdiction.

Planned Maintenance, Startup and Shutdown (MSS)

8. A. This permit authorizes emissions from spent sulfuric acid ( $\text{H}_2\text{SO}_4$ ) Storage Tanks 48, 49, 53 and 56 and from four spent  $\text{H}_2\text{SO}_4$  storage tank truck depressurizations in any one hour and 12,786 spent  $\text{H}_2\text{SO}_4$  storage tank truck depressurizations in any rolling 12 months when the Regeneration Unit No. 2 Furnace, EPN 104, is shut down for the following planned maintenance, start-up, and shutdown (maintenance, start-up and shutdown) activities: **(08/10)**

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 5

Planned unit shut down for process equipment gas leak repairs, planned maintenance turnarounds and general plant preventative planned maintenance shutdowns up to a maximum of 1,314 hours per rolling 12 months.

During these planned downtime events, the emissions from the listed fixed-roof storage tanks and spent tank truck depressurizing activities shall be routed to the existing caustic scrubber and then directed to the inlet of Vapor Combustor, EPN 170, up to 1,314 hours per rolling 12-months.

A maximum of eight railcars can be depressurized at any one time, and the depressurizing vent stream(s) shall be vented to the No. 2 Regeneration Furnace designated as EPN 104 and can be directed to the caustic scrubber and then vented from the caustic scrubber to the Vapor Combustor identified as EPN 170 when the No. 2 Regeneration Furnace is down. The number of railcars depressurized in a rolling 12-month period is limited to 910 and shall be vented to the No. 2 Regeneration Furnaces designated as EPN 104 and can be directed to the caustic scrubber and then vented from the caustic scrubber to a Vapor Combustor identified as EPN 170 when the No. 2 Regeneration Furnace is down up to 1,314 hours per calendar year. **(02/12)**

The Vapor Combustor, EPN 120, shall receive waste gas streams when the Regeneration Unit No. 2 Furnace is not operating up to 1,314 hours per rolling 12-month period. A maximum of two hazardous waste tank trucks can be depressurized in any one hour and 550 truck depressurizations in any rolling 12-month period and vented to the No. 2 Regeneration Furnaces designated as EPN 104 and can be directed to the Vapor Combustor designated as EPN 120 when EPN 104 is down up to 1,314 hours per calendar year.

A maximum of two hazardous waste railcars can be depressurized in any one hour and 65 railcar depressurizations in any rolling 12-month period and vented to the No. 2 Regeneration Furnaces designated as EPN 104 and can be directed to the Vapor Combustor designated as EPN 120 when EPN 104 is down up to 1,314 hours per calendar year.

Emissions from planned unit shutdown for process gas leak repairs at EPN 104 planned maintenance turnarounds at EPN 104 and general plant preventative planned maintenance shutdowns at EPN 104 will be directed to EPN 120 up to a maximum of 1,314 hours per rolling 12-months.

SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 6

- B. This permit authorizes emissions from EPNs 170, TKINSPMSS1, and TKINSPMSS2 for the following planned MSS activities at Storage Tanks 48, 49, 53, 56, and 78.  
**(08/10)**

A maximum of three inspections can be conducted for the group of spent acid Storage Tanks designated as 48, 49, 53, and 56 each calendar year and a maximum of two inspections can be conducted for spent acid Storage Tank 78 each calendar year. Any liquid or solid residual from each storage tank will be removed prior to or after each tank is degassed. The represented tank degassing is limited to 1,032 hours per rolling 12 months.

Any gas or vapor removed from process equipment or storage vessels must be routed to the Regeneration Unit No. 2 caustic scrubber for removal of sulfur dioxide at 99.9 percent immediately followed by the vapor combustor designated as EPN 170 for control of volatile organic compounds (VOC) at 98.0 percent (option one) or alternatively to a portable caustic scrubber for removal of SO<sub>2</sub> at 99.0 percent immediately followed by a portable vapor combustor for VOC destruction at 98.0 percent (option two). The portable caustic scrubber pH shall be kept at a minimum of 9.0 and shall be monitored once a day. A sufficient inventory of fresh caustic shall be kept on site during the use of the portable caustic scrubber when each storage tank undergoes a planned MSS activity.

Option one controls shall not be used to degas Storage Tank 78. Options one and two operating time is each limited to 360 hours per rolling 12 months for Storage Tanks 48, 49, 53, and 56. Option two operating time is limited to 672 hours per rolling 12 months for Storage Tank 78.

Option one or option two control must be maintained until the VOC concentration is less than 34,000 parts per million volume (ppmv) as methane in the storage tank undergoing planned MSS. Each represented storage tank shall be degassed using good engineering practice to ensure air contaminants are removed from the system through the designated option one and/or option two represented emission controls to the extent allowed by process equipment or storage vessel design. The locations and/or identifiers where the purge or liquid flush material enters the storage vessel and the exit points for the exhaust gases shall be recorded.

- C. This permit authorizes emissions from EPNs (MSS-HAZTK1 and MSS-HAZTK2) for the following planned MSS activities at Hazardous Waste Tanks (B1, B2, F2, F3,

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 7

H1 and H2) and bullet tank T554: **(12/08)**

A maximum of two shutdowns, degassing, and cleaning events can be conducted for Tanks F2, F3, and T554 and two shutdowns, degassing, and cleaning events for tanks the equivalent size of Tanks B1 or B2 and two shutdowns, degassing, and cleaning events for tank the equivalent size of H1 or H2 each calendar year. These tank MSS activities are limited to 840 hours per rolling 12 months.

Each tank will be degassed to EPN 104, prior to being drained and flushed. Each tank will be drained and flushed by water a minimum of three times and emissions must be routed to the Regeneration Unit No. 2 Industrial Furnace (EPN 104) until the VOC concentration is less than 400 ppmv. If the Industrial Furnace (EPN 104) is not available, then these emissions must be routed to the vapor combustor, EPN 120. The vapor combustor must achieve 98 percent control efficiency for VOC and the industrial furnace must achieve 99.9999 percent control efficiency for VOC. Any wastewater will be pumped into another hazardous waste storage tank and will be burned in the industrial furnace in Regeneration Unit No. 2 (EPN 104). The outlet VOC concentration from the tanks after final nitrogen purge shall be below 20 ppmv. The purge rate of the blower shall not exceed 500 CFM at ambient temperature.

- D. Catalyst converter planned MSS activity is limited to 218 hours per rolling twelve months from EPN CATSCNR2. Planned MSS generated particulate emissions shall be directed to a bag filter. Outlet bag filter grain loading shall be limited to a maximum of 0.01 grains per dry standard cubic foot. **(02/12)**
- E. Only these planned MSS activities described in this condition are authorized by this permit. These emissions are subject to the maximum allowable emission rates indicated on the maintenance, start-up, and shutdown (MAERT). The performance of each planned maintenance activity and emissions associated with it shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. These records shall include at least the following information: **(02/12)**
- (1) the physical location at which emissions from the planned MSS activity occurred, including the emission point number, common name, and any other identifier for the point at which the emissions were released into the atmosphere;
  - (2) the type of planned MSS activity and the reason for the planned activity;
  - (3) the common name and the facility identification number of the facilities at

SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 8

- which the planned MSS activity and emissions occurred;
- (4) the date and time of the planned MSS activity and its duration;
- (5) 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 amendment application, PI-1 dated December 15, 2006, December 17, 2007 and May 31, 2011, consistent with good engineering practice.

Process Fugitive Monitoring Programs

- 9. 28PI Piping, Valves, Pumps and Compressors in Spent H<sub>2</sub>SO<sub>4</sub> and SO<sub>2</sub> Service (2/07)
  - A. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute, American Petroleum Institute, American Society of Mechanical Engineers, or equivalent codes.
  - B. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.
  - C. 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. Non-accessible valves, as defined in 30 TAC Chapter 115, shall be identified in a list to be made available upon request.
  - D. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve. Except during sampling, the second valve shall be closed.
  - E. All piping components shall be inspected by visual, audible, and/or olfactory means at least once a week by operating personnel walk-through.
  - F. Damaged or leaking valves, connectors, compressor seals, and pump seals 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, the repair may be

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 9

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. At the discretion of the TCEQ Executive Director or designated representative, early unit shutdown or other appropriate action may be required based on the number and severity of tagged leaks awaiting shutdown.

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

### Piping, Valves, Connectors, Pumps and Compressors in VOC Service for Hazardous Waste Operations

- 10. The permittee shall comply with these requirements for all equipment items, except relief valves, which contact hazardous or specified non-hazardous wastes or vapors from these wastes:
  - A. All valves and piping shall be above ground and so located as to be reasonably accessible for leak checking during plant operation.
  - B. Piping connections shall be welded or flanged. Flanges and flange gaskets shall be of the design and quality that the potential for fugitive losses is minimized.
  - C. All pumps shall be sealless or equipped with double mechanical seals using an oil or water based barrier fluid which operates at a pressure higher than the process pressure.
  - D. All valves shall be designed, constructed, and tested by the manufacturer for leak-free performance.
  - E. New and reworked valves installed as replacements shall be tested prior to operation by hydrostatic or gas testing in-place or by an appropriate bench test to determine that the valves do not leak.
  - F. Prior to the initial burning of hazardous waste and annually thereafter, all pumps, valves, and flanges shall be hydrotested or gas-tested at 100 percent or more the maximum operating pressure and adjustments made as necessary to obtain bubble-tight, leak-free performance.
  - G. All pumps, valves, and flanges shall be monitored monthly with a hydrocarbon gas analyzer. Monitored values which are greater than 25 parts per million (ppm)

above any background concentration when measured at a distance of less than three inches shall be considered evidence of a leak.

- (1) In lieu of the monthly monitoring frequency specified in Special Condition No. 9G, pumps, valves, and flanges may be monitored on a quarterly basis if the leak percentages of these components for three consecutive monthly monitoring periods is less than 0.2 percent.

If the leak percentage for any quarterly monitoring period is 0.2 percent or greater, the facility shall revert to monthly monitoring for pumps, valves, and flanges until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

- (2) The leak percentage shall be determined by using the following formula:

$$(Cl_1 + Cs_1) \times 100/Ct_1 = Cp_1$$

Where:

$Cl_1$  = the number of pumps, valves, and flanges found leaking by the end of the monitoring period.

$Cs_1$  = the number of pumps, valves, and flanges for which repair has been delayed and are listed on the facility shutdown log.

$Ct_1$  = the total number of pumps, valves, and flanges in the facility subject to the monitoring requirements, as of the last day of the monitoring period.

$Cp_1$  = the percentage of leaking pumps, valves, and flanges for the monitoring period.

- H. All agitator seals shall be monitored monthly with a hydrocarbon gas analyzer. Monitored values which are greater than 25 ppm above any background concentration when measured at a distance of less than three inches shall be considered evidence of a leak.

- (1) In lieu of the monthly monitoring frequency specified Special Condition No. 9H agitator seals may be monitored on a quarterly basis if the leak percentages of these components for three consecutive monthly

monitoring periods is less than 0.2 percent.

If the leak percentage for any quarterly monitoring period is 0.2 percent or greater, the facility shall revert to monthly monitoring for agitator seals until the facility again qualifies for the alternative monitoring schedules previously outlined in this paragraph.

- (2) The leak percentage used in paragraph H(1) shall be determined using the following formula:

$$(Cl_2 + Cs_2) \times 100/Ct_2 = Cp_2$$

Where:

$Cl_2$  = the number of agitator seals found leaking by the end of the monitoring period

$Cs_2$  = the number of agitator seals for which repair has been delayed and are listed on the facility shutdown log.

$Ct_2$  = the total number of agitator seals in the facility subject to the monitoring requirements, as of the last day of the monitoring period.

$Cp_2$  = the percentage of agitator seals for the monitoring period.

- I. All agitator seals, pumps, valves, and flanges shall be inspected on a daily basis and shall be monitored if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method. Monitored values which are greater than 25 ppm above any three inches shall be considered evidence of a leak. Visible presence of the leaking waste liquid shall always constitute a leak and, therefore, will not necessitate the use of a monitor for detection purposes.
- J. Two continuous ambient hydrocarbon monitors shall be installed, maintained and operated around the perimeter of each of the storage modules for the purpose of identifying fugitive leaks. Each monitor shall alarm at: **(4/07)**
- (1) Calculated hourly averages above 25 ppm; or
  - (2) An instantaneous value above 25 ppm; and
  - (3) An alarm shall result in both an immediate search for leaking equipment

by personnel using portable monitors and a written record of the conclusion of that search.

If the hourly average remains above 25 ppm and the initial search was negative, additional searches need not be conducted except on 24-hour intervals.

Alternate, equivalent methods or additions to these required methods for identifying fugitive leaks may be approved by the Executive Director of the TCEQ upon written request by the permittee.

Hand held monitors meeting Method 21 monitoring requirements can be used to monitor for process fugitive leaks during periods when the hydrocarbon monitors are out of service.

- K. Leaking equipment shall be repaired or isolated within four hours after detection, except for valves connected directly to tanks, which are allowed four hours after the affected tank has been emptied and decontaminated. Emptying and decontamination of the affected tank shall be initiated immediately after the detection of a leak. Equipment shall not be returned to service until the leak is repaired.
- L. The repair and maintenance of any equipment component shall be assisted by use of a hydrocarbon gas analyzer such that a minimum concentration of leaking hydrocarbons is achieved and that the resulting concentration is less than 25 ppm above any background concentration when measured at a distance of less than three inches. An acceptable alternative of demonstrating VOC to be less than 25 ppm is to pressure test with nitrogen up to 125 pounds per square inch. If there is no drop in pressure over a 15 minute period, the equivalent 25 ppm threshold is satisfied.
- M. The holder of this permit shall operate and maintain all portable hydrocarbon gas analyzers to meet the performance specifications, field tests, and calibrations as found in 40 CFR § 264.1063. Alternate, equivalent equipment items, operating modes, and maintenance activities may be approved by the Executive Director of the TCEQ upon written request by the permittee.
- N. Records of monitoring and maintenance actions, required by the Special Condition No. 9 of this permit shall be maintained for a period of three years, shall be made available to authorized state and local air pollution control agencies, and shall include, at a minimum, the following data:
  - (1) A list of all components affected by this special condition;

## SPECIAL CONDITIONS

Permit Number 4802/PSDTX1260

Page 13

- (2) Checklists indicating the daily inspections are being performed;
- (3) Checklists indicating the monthly inspections are being performed;
- (4) Checklists indicating the annual inspections are being performed;
  
- (5) Checklists indicating the continuous ambient monitors are being operated and maintained;
- (6) Summaries including the date, time, equipment identification, and monitoring results for all leaking items;
- (7) Summaries including the date, time, equipment identification, and corrective actions for all isolations, replacements and/or repairs performed, including monitoring results immediately after repairs; and
- (8) Records of the calibration of the portable and continuous monitoring instruments.

(Note: Checklist and summaries may be computerized but shall be verified by signed writing confirming that the required checks were completed.)

### Vapor Combustor

11. A. Vents from Fixed-Roof Storage Tanks designated as B1, B2, F2, F3, H1, H2 and Tank 554 and hazardous waste truck and railcar depressurizations shall vent to the Regeneration No. 2 Furnace designated as EPN 104 when it operates and these tank vents and depressurizations shall be directed to the Vapor Combustor designated as EPN 120 up to 1,314 hours per rolling 12 months when EPN 104 is not operable. **(12/08)**
- B. The MSS emissions (two shutdowns, degassing, and cleaning events per calendar year) from Tanks F2, F3, and T554 and the MSS emissions (two shutdowns, degassing, and cleaning events per calendar year) for the equivalent size Tanks B1 or B2 and MSS emissions (two shutdowns, degassing, and cleaning events per calendar year) for the equivalent size Tanks H1 or H2 shall vent to the Regeneration Unit No. 2 Furnace designated as EPN 104 when it operates and shall be directed to the Vapor Combustor designated as EPN 120 when EPN 104 is not operable. These tank MSS activities are limited to 840 hours per rolling 12 months. **(12/08)**
  
12. Vents from Tanks 48, 49, 53 and 56 and spent tank truck depressurizations shall be vented to the Regeneration No. 2 Furnace designated as EPN 104 when it operates and these tank vents and depressurizations shall be directed to the Vapor Combustor designated as EPN 170 up to 1,314 hours per rolling 12-months when EPN 104 is not operable. A maximum of four tank trucks can be depressurized in one hour to the represented emission controls. **(4/07)**

Storage Tank Vent 78 and spent railcar depressurizations shall vent to the No. 2 Regeneration Furnaces designated as EPN 104 and can be directed to the caustic scrubber and then routed to the Vapor Combustor designated as EPN 170 when the No. 2 Regeneration Furnace is down up to 1,314 hours per calendar year. The caustic scrubber outlet vent shall be directed to the inlet of EPN 170. **(3/06)**

13. Each Vapor Combustor designated EPNs 120 170 and the portable vapor combustor designated as EPN TKINSPMSS2 shall be equipped with a continuously burning pilot system or other automatic ignition system that assures combustor ignition and that provides immediate notification of appropriate supervisory personnel when the ignition system ceases to function properly. **(4/07)**

Initial Determination of Compliance

14. Sampling ports and platform(s) shall be incorporated into the design of the Vapor Combustor Stack designated as EPN 170 and Regeneration Unit No. 2 Stack designated as EPN 104 according to the specifications set forth in the attachment entitled “Chapter 2, Stack Sampling Facilities.” Alternate sampling facility designs may be submitted for approval by the TCEQ Regional Director. **(02/12)**
15. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Vapor Combustor (EPN 170) and Regeneration Unit No. 2 Stack (EPN 104). The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. **(02/12)**  
**(PSD)**
  - A. The appropriate TCEQ Regional Office in the region where the source is located shall be contacted as soon as testing is scheduled, but not less than 45 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting,
- (2) Date sampling will occur,
- (3) Name of firm conducting sampling,
- (4) Type of sampling equipment to be used, and
- (5) Method or procedure to be used in sampling.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

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

- B. Air contaminants emitted from the Vapor Combustor (EPN 170) to be tested for include (but are not limited to) VOC.

Air contaminants emitted from the Regeneration Unit No. 2 Stack (EPN 104) to be tested for include (but are not limited to) CO, H<sub>2</sub>SO<sub>4</sub> mist, NO<sub>x</sub>, PM and SO<sub>2</sub>. These stack testing results shall be used to demonstrate compliance with Special Condition Nos. 1 and 3. Stack testing of EPN 104 shall be completed between 90 days and 180 days after installation of the emission abatement equipment required by Special Condition No. 3. **(02/12) (PSD)**

- C. Sampling shall occur at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires the EPA approval, and requests shall be submitted to the TCEQ Regional Director.
- D. The plant shall operate at maximum production (or loading) rates during stack emission testing. The stack test will be conducted under the combination of the maximum conditions as identified in the MAERT as Vapor Combustor 2-Normal plus Vapor Combustor 2-Standby (maintenance). Primary operating parameters that enable determination of production rate (or loading rate) and combustor operating parameters shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting. If the plant is unable to operate at maximum rates during testing, then future production (or loading) rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved. The combustor operating parameters during testing shall be used to set the normal operating conditions until the next stack test is performed.

The sulfuric acid plant shall be sampled while operating at the maximum possible safe production rate (as determined by the permittee) for the H<sub>2</sub>SO<sub>4</sub> Regeneration Unit No. 2 at the time of testing for EPN 104. This H<sub>2</sub>SO<sub>4</sub> production rate shall be monitored and recorded during the stack test of EPN 104. If the normal production rate of H<sub>2</sub>SO<sub>4</sub> from the Regeneration Unit No. 2 exceeds by more than 10 percent the tons per day maintained during sampling of EPN 104, the permit holder must notify, in writing, the appropriate TCEQ Regional Office, and the source may be subject to additional sampling to demonstrate continued compliance. **(02/12) (PSD)**

- E. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. One copy of the final sampling report shall be distributed as follows within 60 days after sampling is completed. **(02/12) (PSD)**

The appropriate TCEQ Regional Office; each applicable local air pollution control program, and EPA Region 6 New Source Review in Dallas (EPN 104 only)

- F. A written proposed description of any deviation from sampling procedures specified in permit conditions or the TCEQ or EPA sampling procedures and any written contact as soon as testing is scheduled, but not less than 45 days prior to sampling to schedule a pretest meeting shall be sent to each applicable local air pollution control program with jurisdiction in conjunction with paragraph A of this special condition. Requests for additional time to perform sampling in conjunction with paragraph C of this special condition shall be sent to each applicable local air pollution control program with jurisdiction.

#### Continuous Demonstration of Compliance

16. The industrial furnace shall not emit non-sulfate particulate matter in excess of 0.02 grain per dry standard cubic feet when corrected for the amount of oxygen in the stack gas in accordance with the formula specified in 40 CFR § 264.343(c). Corrections for the amount of sulfate particulate in the stack gas shall conform to the procedures specified in the TCEQ Laboratory Methods Manual.
17. The following requirements apply to capture systems for EPN 104 emitting SO<sub>2</sub>. **(02/12)**
- A. The permit holder shall 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;
- B. The control device shall not have a bypass.

- C. If any of the above inspections are not satisfactory, the permit holder shall promptly take necessary corrective action.
18. The minimum liquid flow to the absorber (EPN 104) shall be 200 gallons per minute (gpm). The circulation rate shall be monitored and recorded at least once a day. **(02/12) (PSD)**

The liquid flow rate shall be recorded at least once an hour.

The flow 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 2 percent of span or 5 percent of the design value.

The minimum pH on the second stage of the scrubber's scrubbing solution downstream of the Brinks mist filter is 5.0. This pH shall be analyzed and recorded at least once a day.

Each monitoring device shall be cleaned with an automatic cleaning system, or cleaned weekly using hydraulic, chemical, or mechanical cleaning. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least weekly, whichever is more frequent, and shall be accurate to within 0.5 pH unit. Quality-assured (or valid) data must be generated when the facility generating emissions 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 hours) 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.

19. The holder of this permit shall install, calibrate, maintain and operate a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of SO<sub>2</sub> and the total gas flow rate from the Regeneration Unit No. 2 Stack (EPN 104) on and after April 1, 2014. **(02/12) (PSD)**
- A. The CEMS calibration shall be checked daily and the CEMS shall be zeroed and spanned using cylinder gas at least once a week and corrective action taken when the results differ by greater than  $\pm 5$  percent from the tagged cylinder gas value.

- B. The monitoring data shall be reduced to one-hour average concentrations at least once every month using a minimum of four equally spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable emissions rates in pounds of SO<sub>2</sub> per hour at least once every month.
- C. All monitoring data and quality assurance data shall be maintained by the source for a period of two years and shall be made readily available to TCEQ personnel, EPA personnel or any local program with jurisdiction upon request. The data from the CEMS may, at the discretion of the TCEQ, EPA personnel or any local program with jurisdiction, be used to determine compliance with the SO<sub>2</sub> emission limits specified in MAERT.
- D. The CEMS must operate at all times when sulfur bearing compounds (except natural gas) are being fed to the furnace, but need not operate during CEMS breakdown, repairs for calibration checks and zero span adjustments. **(02/12)**
- E. The CEMS shall be used to demonstrate compliance with the SO<sub>2</sub> emission limits as found in Special Condition No. 3. The permit holder must meet the quality assurance procedures required by 40 CFR Part 60 Appendix F or any alternate procedures specified in the Alternate Monitoring Plan (Attachment A). **(02/12)**
  - (1) The SO<sub>2</sub> CEMS shall monitor and record the three hour arithmetic average (not weighted by production volume) SO<sub>2</sub> emission rate in units of pounds per ton of one hundred percent acid produced.
  - (2) The SO<sub>2</sub> CEMS shall monitor and record the SO<sub>2</sub> emission rate averaged (arithmetic average, not weighted by production) over all operation hours in each 365 day period in units of pounds per ton of one hundred percent acid produced.
  - (3) Implementation of the monitoring requirements has been defined in the Alternate Monitoring Plan (AMP) for the SO<sub>2</sub> CEMS system.
  - (4) The AMP supersedes the corresponding SO<sub>2</sub> monitoring requirements of NSPS Subpart H.
  - (5) All steps necessary to avoid CEMS breakdowns and minimize CEMS down time must be taken. This shall include, but is not limited to, operating and maintaining the CEMS in accordance with best practices and maintaining an on-site inventory of spare parts or other supplies necessary to make rapid repairs of the equipment.
  - (6) In the event of CEMS downtime lasting longer than twenty-four hours, the permittee shall demonstrate compliance with the emission limits established in Special Condition No. 3 according to the procedures specified in the AMP.

Dated: February 10, 2012

**ATTACHMENT A**  
**Alternative Monitoring Plan for SO<sub>2</sub> Emissions**  
**Rhodia Inc. Houston, TX Unit 2**  
**Single Absorption Sulfuric Acid Regeneration Plant with Scrubber**

**Justification for Using an Alternative Monitoring Plan (AMP) for SO<sub>2</sub> emissions**

The regulations that established the NSPS for sulfuric acid plants are over 30 years old. At the time, the regulatory standard was established as 4 lb of SO<sub>2</sub> emissions per ton of 100 % sulfuric acid produced, and compliance with the standard was to be demonstrated using a calculation similar to Equation 1 below. Regulations required the use of a CEMS to measure SO<sub>2</sub> concentration at the stack (M2), but only required measurement of SO<sub>2</sub> entering the converter by suitable method three times per calendar day. Plants typically rely on the use of a Reich test once per shift to establish the SO<sub>2</sub> concentration entering the converter (M1). While the stack measurement represented a nearly continuous real time indication of the stack concentration, performing a Reich test once per shift for the converter inlet concentration provides little more than a random sample once every eight hours.

The methodology proposed in this AMP will provide a more continuous real-time indication of compliance by using a process analyzer to measure the converter inlet SO<sub>2</sub> concentration. While this analyzer will be nearly identical to the CEMS that is commonly used at the stack, it will not be able to meet all of the standards that are usually applied to a CEMS because of the process conditions and / or physical limitations of an existing facility. For example, it is not feasible to modify the existing ductwork around the analyzer to meet the normal guidelines for straight runs of pipe upstream / downstream of the analyzer. We believe that the disadvantages (places where the analyzer is not quite up to CEMS standards) are far outweighed by the advantages of using a real time instrument, rather than a periodic Reich test, to measure the converter inlet concentration. Rhodia will use best professional judgment to ensure the analyzer located at the converter inlet provides representative data.

Except as noted in this document, the objective of this proposed AMP is to maintain the process analyzer at the converter inlet in a manner that is similar to the stack CEMS, as set forth in 40 CFR Part 60, Appendix B and F.

**Definitions**

"CEMS" or "Continuous Emission Monitoring System" shall mean equipment that continuously measures and records the concentration and/or emission rate of a pollutant, in the units specified by the emission limit concerned

## ATTACHMENT A

Permit Number 4802/PSDTX1260

Page 2

“Long-Term Limit” shall mean a sulfur dioxide (SO<sub>2</sub>) emission limit for a sulfuric acid plant expressed as pounds per ton of 100% sulfuric acid produced (“lbs/ton”), averaged over all Operating Hours in a rolling 365-day period.

"Malfunction" shall mean, consistent with 40 C.F.R. § 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in part by poor maintenance or careless operation.

“Operating Hours” shall mean periods during which sulfur or sulfur-bearing compounds, excluding conventional fossil fuels such as natural gas or fuel oil, are being fed to the furnace.

"Short-Term Limit" shall mean the SO<sub>2</sub> emission limit for each sulfuric acid plant expressed as pounds per ton of 100% sulfuric acid produced (“lbs/ton”), averaged over each rolling 3-hour period. Except for periods of Startup, Shutdown and Malfunction, the Short-Term Limits established under this Consent Decree shall apply at all times.

"Shutdown" shall mean the cessation of operation of a sulfuric acid plant for any reason. Shutdown begins at the time sulfur or sulfur-bearing feeds, excluding conventional fossil fuels such as natural gas or fuel oil, to the furnace ceases.

“Startup” shall mean the 24-hour period at any sulfuric acid plant beginning when the feed of sulfur or sulfur-bearing materials, excluding conventional fossil fuels such as natural gas or fuel oil, to the furnace commences after a main gas blower shutdown.

### **Part 60.84 Emissions Monitoring.**

Compliance with the Long-Term Limit and Short-Term Limit defined by the Consent Decree will be demonstrated using SO<sub>2</sub> analyzers at the converter inlet and exit stack using the following equation. Refer to additional discussion below the equation for specific details related to data input and calculation.

#### Equation 1

$$X_e = (M1 - M2)/(M1 - 1.5 \times M1 \times M2)$$

$$E = (K / X_e) - K$$

## ATTACHMENT A

Permit Number 4802/PSDTX1260

Page 3

Where:

$X_e$  = fractional conversion efficiency

$M_1$  = fractional concentration of  $SO_2$  entering the converter

$M_2$  = fractional concentration of  $SO_2$  at the stack

$E$  =  $SO_2$  emission rate in lb / ton of 100 % acid produced

$K$  = 1306 = (2000 lb / ton ) x (64 lb / lbmol  $SO_2$ )/(98 lb / lbmol  $H_2SO_4$ )

### Short-Term Limit

The following procedure and calculation will be performed once every five minutes during all Operating Hours, except periods of Startup, Shutdown or Malfunction, to demonstrate compliance with the Short-Term Limit for  $SO_2$ .

- At any given time the system will maintain an array consisting of the 36 most recent samples of the  $SO_2$  concentrations at the converter inlet and at the exit stack.
- Once every five minutes, the system will sample the latest  $SO_2$  concentrations, add the recent readings to the array and delete the oldest readings. If the unit is not operating then the array of data will not change.
- $M_{1_{3hravg}}$  will then be calculated as the arithmetic average of the 36 most recent data samples for the fractional concentration of  $SO_2$  entering the converter ( $M_{1_{3hravg}}$ ).
- $M_{2_{3hravg}}$  will then be calculated as the arithmetic average of the 36 most recent data samples for the fractional concentration of  $SO_2$  at the stack ( $M_{2_{3hravg}}$ ).
- The rolling 3 hour average  $SO_2$  emissions ( $E_{3hravg}$ ) will then be calculated per Equation 2.

Equation 2 (rolling 3 hour average  $SO_2$  emissions)

$$X_{e_{3hravg}} = (M_{1_{3hravg}} - M_{2_{3hravg}}) / (M_{1_{3hravg}} - 1.5 \times M_{1_{3hravg}} \times M_{2_{3hravg}})$$

$$E_{3hravg} = (K / X_{e_{3hravg}}) - K$$

- The production unit will be deemed to be operating in compliance with the Short Term Limit if  $E_{3hr-avg}$  does not exceed 3.0 lb of  $SO_2$  per ton of 100% sulfuric acid produced during all Operating Hours except periods of Startup, Shutdown or Malfunction.

During routine calibration checks and adjustments of the  $SO_2$  monitors, the  $SO_2$  measurement will be “frozen” at its pre-calibration level. Refer to System Maintenance and Malfunction for guidance during CEMS malfunctions, breakdowns, and repairs.

## ATTACHMENT A

Permit Number 4802/PSDTX1260

Page 4

### Long-Term Limit

The following method will be used to calculate the daily average lb of SO<sub>2</sub> per ton of 100% sulfuric acid, and the number of Operating Hours for the calendar day.

- Once every five minutes during all Operating Hours, the SO<sub>2</sub> concentrations (converter inlet and exit stack) will be sampled and this time will be counted as five operating minutes. If the unit is not operating, then the SO<sub>2</sub> concentrations will not be sampled.
- The daily average will be calculated as follows for each calendar day:
  - o M1<sub>daily avg</sub> will be calculated as the arithmetic average of the sample population for the fractional concentration of SO<sub>2</sub> entering the converter.
  - o M2<sub>daily avg</sub> will be calculated as the arithmetic average of the sample population for the fractional concentration of SO<sub>2</sub> at the stack
  - o E<sub>(daily avg)</sub> will then be calculated using Equation 3.

#### Equation 3 (daily average SO<sub>2</sub> emissions)

$$Xe_{\text{daily avg}} = (M1_{\text{daily avg}} - M2_{\text{daily avg}}) / (M1_{\text{daily avg}} - 1.5 \times M1_{\text{daily avg}} \times M2_{\text{daily avg}})$$

$$E_{\text{daily avg}} = (K / Xe_{\text{daily avg}}) - K$$

- o The number of operating minutes for the day will be summed (T<sub>day</sub>, )
- o E<sub>dayavg</sub> and T<sub>day</sub> will be used to calculate a 365-day rolling average of lb/ton. The daily averages will be weighted by the number of operating minutes per day, as per Equation 4.

Once the system has been in operation for 365 days, compliance with the Long Term Limit (365-day rolling average) SO<sub>2</sub> emission rate will be calculated using Equation 4.

#### Equation 4

$$E_{365\text{avg}} = \frac{\sum [E_{\text{dayavg}} * T_{\text{day}}]}{\sum T_{\text{day}}}$$

The production unit will be deemed to be operating in compliance with the Long-Term Limit if E<sub>365avg</sub> does not exceed 1.8 lb of SO<sub>2</sub> per ton of 100% sulfuric acid produced during all Operating Hours

During routine calibration checks and adjustments of the SO<sub>2</sub> monitors, the SO<sub>2</sub> measurement will be “frozen” at its pre-calibration level. Refer to System Maintenance and Malfunction for guidance during CEMS malfunctions, breakdowns, and repairs:

**ATTACHMENT A**

Permit Number 4802/PSDTX1260

Page 5

**Pt. 60.84 Emissions Monitoring Pt. 60, App. B, Spec. 2, Section 6.0 (Stack and Converter Inlet Analyzers)**

Rhodia proposes to use the following stack analyzer specifications to satisfy the requirements of Pt. 60.84 and Pt. 60, App. B, Spec. 2, Section 6.0. The stack analyzer span must be capable of accommodating elevated emissions during startup. Specifications for the analyzer located at the converter inlet are based on Rhodia’s experience with process analyzers at these locations.

An equivalent analyzer may be substituted for any reason.

<b>Location</b>	<b>Manufacturer</b>	<b>Model Number</b>	<b>Range</b>
Stack	Ametek Photometric Analyzer (or equivalent)	920 (or equivalent)	Dual range: Normal: 0 – 500 ppm SO <sub>2</sub> SSM: 0 – 3,600 ppm SO <sub>2</sub>
Converter Inlet	Ametek Photometric Analyzer (or equivalent)	920 or IPS-4 (or equivalent)	Single range: 0 – 15 % SO <sub>2</sub>

**Pt. 60, App. B, Spec. 2, Section 1.0 (Stack and Converter Inlet Analyzers)**

Initial compliance certification required only if the analyzer is replaced or if system modifications require one to be performed. Additional detail and exceptions noted below under System Modifications below.

**Pt. 60, App. B, Spec. 2, Section 8.0 (Converter Inlet Analyzer)**

Rhodia will select the optimum location to obtain representative SO<sub>2</sub> readings from this location. Turbulence near the blower exit and elevated temperature at the converter inlet may require an analyzer measurement location that differs from the requirements of this section (e.g. pollutant stratification). A pollutant stratification test is not warranted for this application because (a) process conditions make it extremely unlikely that stratification could occur, and (b) the samples obtained under this monitoring plan are the same as would be obtained under the NSPS, except that the instrument will typically take 288 samples per day rather than the 3 required by the NSPS. Therefore, no new stratification risk is introduced by this method, but the instrument will typically take about 100 times as many samples.

## **ATTACHMENT A**

Permit Number 4802/PSDTX1260

Page 6

### **Pt. 60, App. B, Spec. 2, Section 16.0 (Converter Inlet Analyzer)**

Rhodia will use the Alternative Relative Accuracy Procedure provided in Section 16.2.1 (i.e. conduct a cylinder gas audit).

### **Pt. 60, App. F, Spec. 2, Section 5.0 (Converter Inlet Analyzer)**

Rhodia will use quarterly cylinder gas audits (i.e. four per year) to satisfy the requirements of this section.

### **System Maintenance and Malfunction**

Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments), the plant shall conduct monitoring in continuous operation during all Operating Hours as defined above

In the event of a CEMS malfunction of greater than 24 hours:

- Exit stack gas will be sampled and analyzed at least once per hour, during all Operating Hours. Sampling will be conducted by Reich test or other method (e.g. portable analyzer).
- Converter inlet gas will either be sampled, or estimated using engineering judgment, at least once every four hours during all Operating Hours.
- Compliance with the Short-Term Limit and Long-Term Limit shall be verified by using these data and Equations 2, 3, and 4 with the following exceptions. If the stack CEMS is out of service, the most recent hourly reading will be substituted for the 12 five-minute readings that would otherwise be taken if the system was operating normally. Similarly, if the converter inlet SO<sub>2</sub> analyzer is out of service, the most recent four-hour reading will be substituted for the 48 five-minute readings that would otherwise be taken if the system was operating normally.

In the event of an analyzer malfunction, a like-kind replacement may be used while repairs are being made. A cylinder gas audit (CGA) must be performed on the replacement analyzer as soon as is practicable after it is placed in service. The daily calibration drift requirement would also apply to the replacement analyzer.

### **System Modifications**

Significant replacement, modification, or change in certified CEMS equipment may require a complete recertification. If a recertification is required, it will be conducted within 90 days. Examples include:

## **ATTACHMENT A**

Permit Number 4802/PSDTX1260

Page 7

- Change in location or orientation of the sampling probe or site
- Complete replacement of an existing continuous emission monitoring system.

When replacing components that can alter the physical characteristics or conditioning of the sample in the field, a CGA is required. The following activities will require a CGA to be performed before returning the analyzer to service.

- Replacement of the analyzer
- Detector replacement
- Replacement of equipment associated with the detector

The following activities are not expected to trigger a CGA. However, it is recommended that a Calibration Drift check be performed before returning to service.

- Filter replacement
- Data Recorder Repairs
- Tubing replacement

General guidance: When replacing components or devices that do not affect the physical characteristics or handling of the gas in the field such as data recorders, a CGA is not required. A calibration drift check normally should be conducted. If the repaired component affects the transport of the gas to the analyzer, such as replacing tubing, a leak check should be conducted.

### **Alternative Monitoring System**

The monitoring system proposed in this Alternative Monitoring Plan is expected to be a significant improvement over the monitoring requirements contained in the NSPS for sulfuric acid plants. However, the real-time calculation of SO<sub>2</sub> emissions is dependent upon the use of an SO<sub>2</sub> analyzer in the inlet duct to the converter, and the maintenance of that analyzer to approximately the same performance standards normally applied to the stack SO<sub>2</sub> CEMS. This is an unproven application of this technology, and there is some risk that the converter inlet SO<sub>2</sub> analyzer will not be able to perform as required despite the best efforts of Rhodia and the instrument manufacturer.

If Rhodia and the instrument manufacturer are unable to make the system operate to the indicated standards because the converter inlet SO<sub>2</sub> analyzer is unreliable and / or inaccurate in this application, then Rhodia will promptly notify EPA Region 6, and TCEQ of its determination and proceed as follows:

## **ATTACHMENT A**

Permit Number 4802/PSDTX1260

Page 8

- Rhodia will immediately begin meeting its SO<sub>2</sub> emissions monitoring requirements in accordance with 40 CFR Part 60, Subpart H, except that the SO<sub>2</sub> concentration at the converter inlet will be analyzed six times per day rather than the three times per day specified in the regulations.
- Rhodia will provide whatever information is requested by EPA regarding the determination that the converter inlet SO<sub>2</sub> analyzer can not meet the necessary performance standards.
- Rhodia will work with EPA to determine whether real time measurement of SO<sub>2</sub> emissions (in lbs / ton of acid) can be readily accomplished through other means without the use of an SO<sub>2</sub> analyzer at the converter inlet.

Dated February 10, 2012

# APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Acetaldehyde	Ash
Acetic Acid	Atrazine*
Acetic Anhydride	Auramine
Acetone	Azeo Oil
Acetone Cyanohydrin	
Acetonitrile	Barium*
Acetophenone	Barium Sulfate
2-acetylaminofluorene	Bendocarb
Acetyl Chloride	Benz(a)anthracene
Acetylsalicylic acid	Benz(a)pyrene*
Neo Acid Anhydrides	Benz(c)acridine
Acrolein*	Benzaldehyde
Acrylamide (solid)	Benzamide,3,5-dichloro-N-
Acrylonitrile*	(1,1-dimethyl-2-propynyl)
Acrylic Acid	Benzyl mercaptan
Adipic acid	Benzene*
Adiponitrile	Benzene,1,1-(2,2-dichloroethylidene)bis
Aldrin	[4-chloro-]
Alicarb	Benzenediamine
Aliphatic Carboxylic Acid	Benzenethanamine,alpha,alpha-dimethyl-
Aliphatic Hydrocarbons	Benzene Hexchloride
Alkenyl Caroxylate	Benzene Sulfonyl Chloride
Allyl Alcohol	Benzidine (solid)
Alpha Methylstyrene	Benzonitrile
Alpha Naphthylamine	Benzo (RST) pentaphene
Alpha Naphthylthiourea	Benzo (a) pyrene
2-(2-Aminoethoxy)Ethanol	Benzo (a) phenanthrene
4-aminophenol	Benzotriazobenzotriazole
Aminoethyl Ethanolamine	Benzoic Acid
tris(hydroxymethyl)aminomethane	p-Benzoquinone*
Amitrole (solid)	2-(2-hydroxy-3,5 di-(tert)amylphenol)
Ammonia	benzotirazole
Ammonium Hydroxide	Benzotrichloride
Ammonium Nitrate*	Benzoyl Chloride
Ammonium Polysulfide	Benzyl Chloride*
Ammonium Procrate, dry	Beryllium
t-Amyl Hydroperoxide	Biodiesel
Aniline*	Biphenyl*
Anthracene*	Bipyridyl
Anthroquinone	Bis(2-chloroethoxy)methane
Antimony*	Bisexamethylenediamine
Aromatic Naphtha	Bis(methylthio)methane
Arsenic*	Boron
Arsine*	Bromoacetone, liquid

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 2

Bromoform (tribromomethane)	Chloroacetaldehyde
Bromomethane (methyl bromide)	Chloroaniline-p
Brucine (solid)	Chlorobenzene
Butadiene polymer	1,2,4,5-tetrachlorobenzene
Butadiene tar	Chlorobenzilate
n-Butyl Acetate	1-Chlorobutane
Butyraldehyde*	2-chloroethyl vinyl ether
Butyl Ether	Chloroform
n-Butyl Formate	Bis (2-chloro-1-methylethyl) ether
n-Butyl Propionate	Chloromethane
1,3 Butadiene	(Chloromethyl) ether, bis
n-Butane	Chlormethyl methyl ether
1,4 Butanediol	Chloronaphazine
Butanol	2-chloronaphthalene
2-Butanol	o-Chlorophenol
n-butanol	2,6-dichlorophenol
t-butanol	Chromium*
1-Butene	Chrysene*
cis-3 Butene	Coal tar
2-methyl-1-butene	Creosote
n-butyl acetate	Cresol
Butyl Acrylate	m-cresol
sec-butyl alcohol	4-chloro-m-cresol
Butylcellosolve	p-cresol
t-Butyl Hydroperoxide*	Crotonaldehyde
n-Butylmercaptan	Cumene Hydroperoxide
1,3-Butylene Glycol	di-tert-butyl-para-Cresol
2-butyne-1,4-diol (BYD)	Cumene
1,4-butyndiol	Cumene Hydroperoxide
Butyric Acid*	p-Cumyl Phenol
2-methyl butyric acid	Cyanogen Bromide
C-4	Cyanogen Chloride with less than 0.9% water
Cacodylic Acid	Cyanogen Gas
Camphchlor	1,3,6-tricyanohexane
Carbaryl (solid)	Cyclohexane
Carbon Bisulfide	Cyclohexanone
Carbon Disulfide*	Cyclooctadiene
Carbon Tetrachloride	Cyclophosphamide
Castor Oil	Copper*
Catechol	Creosote*
Chloral, anhydrous, inhibited	Crotonaldehyde*
Chlordane	Cyclohexyl Amine*
Chlorinated Polyisobutylene	Cyclopentadiene

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 3

Daunomycin	Diisobutylene
DDT	Dimethoate
Diacetone Alcohol	Dimethoxybenzidine-3,3
Dialkyl Disulfide Oil	Dimethylamine
Dibenz (A,H) anthracene	p-dimethylaminoazobenzene
Dibromomethane	Dimethylaminoethoxyethanol
Dibromomethane-1,2	Dimethylbenz(a)-anthracene-7,12
Dibutylphthalate	Dimethylbenzene
Dicamba	Dimethylbenzidine-3,3
o-Dichlorobenzene	(1,3-dimethylbutyl)-N-phenyl
m-Dichlorobenzene	Dimethylcarbanyl Chloride
p-Dichlorobenzene (solid)	Dimethyl Disulfide
Dichlorobenzidine-3,3 (solid)	Dimethylethanolamine*
Dichlorobutene	Dimethylformamide
Dichloro-1,4, butene-2	Dimethylhydrazine, unsymmetrical
1,2-Dichloroethane	Dimethylmethylaminoethoxy ethaneamine
trans-1,2-dichloroethene	Dimethylphenol -2,4
Dichloroethyl ether	(1,4-dimethylphenyl)-N-phenyl
Dichlorodifluoromethane	Dimethyl Phthalate
Dichloromethane	Dimethyl Siloxane
Dichlorophenol-2,4	Dimethyl Sulfate
2,4 Dichlorophenoxy Acetic Acid	Dimethyl Sulfide
Dichloropropylene-1,3	Dimethyl Sulfoxide
Dicyanoethylamine	Dimethyl Disulfide*
Dicyclopentadiene	Dimethyl Formamide (DMF)
Dieldrin	1,2 Dimethoxybenzene
Diepoxybutane	Dimethoxyethane
Diethanolamine	Dimethyl Ether
Diethylaminoacetone	Dimethylaminopropylamine DMAPA
Diethyl Sulfide	Dimorphoxy Amino Glycol
Diesel Fuel	4,6 Dinitro-o-cresol*
Di(2-ethylhexyl)phthalate	Dinitrocyclohexylphenol
Diethylarsine	Dinitrotoluene-2,4
Diethyl Ether	Di-n-octyl Phthalate
Diethyl Ketone	Dinoseb
Diethyl Phthalate	Di-N-Propylamine
Diethylstilbestrol	Dioxane
Diethylene Glycol	Diphenyl Hydrazine-1,2
Diethylene Glycol Dimethyl Ether	Dipropylamine
Diethylene Glycol Monomethyl Ether	Dipropylene Glycol Methyl Ether
Diethylenetriamine	Disulfoton
Diglyme	Di-t-butyl Peroxide
2,3 dihydrofuran	Dithiobiuret
Dihydrosafrole	Dithiobiuret

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 4

Diruon	2 Ethyl-1-Hexanol
Dodecane	2-Ethylhexanoic Acid
Dodecybenzene	Ethyl mercaptan*
Dodecybenzene alkylates	Ethylidene norbornene
Dodecyl Mercaptan*	Ethyl Propyl Acrolein
tert-dodecylmercaptan	Ethylsuccinonitrile
	Etoposide
Endosulfan	
Endrin	Facet 75 DF Herbicide
Epichlorohydrin*	Famphur
Epinephrine	Fatty Acids
1,2 ethanedithiol	Fludioxonil
Ethane,1,1,1,2-tetrachloro	Flumaric Acid
Ethanimidothioic acid, N-	Fluoroacetamide
[(methylamino)carbonyl[oxy]-methy ester]	Fluoranthene
Ethanol	Fluorosulfonic Acid
n-nitrosodiethanolamine	Fluorotrichloromethane
Ethoxy Ethanol	Fluorothene
Ethoxy Triglycol	Formaldehyde*
Ethyl Acetate	Formic Acid
Ethyl acrylate	No. 2 Fuel Oil
n-nitrosodiethylamine	Furan
Ethylbenzene	Furfural*
Ethyl Carbamate	
Ethyl Lactate	Gasoline
Ethyl Mercaptan	Gasoline Jet Fuel
Ethyl Methacrylate	Glutaric acid
Ethyl Methanesulfonate	2-methylglutaronitrile
Ethyl Methyl Ketone	Glycidaldehyde
Ethyl Parathion (solid)	Glycol Acetate
Ethyl trimethoxysilane	Glycol Diacetate
Ethylene	Grease
Ethylene Bromide	Guaiacol
Ethylene Dichloride	Guanidine, N-methyl-N'-nitro-N-nitroso-
Ethylene Imine, inhibited	
Ethylene Oxide*	HBM (2-hydroxisobutyric acid methyl ester)
Ethylene Thiourea (solid)	Heptachlor (solid)
Ethylidene Dichloride	Heptane
2-Ethylhexaldehyde	Heptanol
Ethyl Lactate	3-Heptanone
Ethylene Almine, inhibited	Hexachlorobenzene
Ethylene Diamine	Hexachloro-1,3-butadiene*
Ethylene Glycol	Hexachloroethane
Ethylene Oxide	Hexachlorocyclopentadiene

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 5

Hexachlorophene	Ketone
Hexachloroprene (solid)	Keto/enol
Hexane	
1,6 hexamethylene diisocyanate*	Lasiocarpine
Hexamethylene-1,6-diisocyanate	Lead Acetate
Hexene	Lindane*
Hydraulic Oil*	Lube Oils
Hydrazine	
Hydrazine, 1,2-diethyl-	Magnesium Chloride
1,2-dimethylhydrazine	Malathion
Hydrazine Hydrate	Maleic Anhydride*
Hydrochloric Acid, liquid	Malononitile
Hydrocyanic Acid, liquefied	Manganese*
Hydrogen Chloride*	Mefenoxam
Hydrogen Cyanide	Melphalan
Hydrogen Silesquioxane	Mercury
Hydrogen Sulfide	Methacrylonitrile
Hydroquinone	Methanethiol*
Hydroquinone Methyl Ether	Methapyrilene
2-hydroxyisobutyric acid methyl ether (HBM)	Methomyl Intermediate (MHTA)
Hydroxylamine	Methoxychlor (solid)
	Methoxydihydropyran, liquid
Indene*	n-(2-Methoxy;-Methylethyl)-2,4-dimethyl-
Indeno (1,2,3-CD) Pyrene	2-amino-1-methoxypropane
Iron Sulfate	n-methylacetamide
Isobutanol	Methyl-3-13-(2H-benzotrizole-2-YL)-5-(tert)- butyl-4 hydroxy phenyl) propionate
Isobutyl Acetate	Methyl Chloride
Isobutyraldehyde	Methyl Chlorocarbonate
Isodecyl Alcohol	Methyl Chloroform
Isooctane	Methyl Cyclohexane
Isodrin	Methyl Ethyl Ketone Peroxide
Isopar E	Methyl Glutanoitrile
Isopar L	2-Methylglutanronitrile
Isopentane	1-Methoxy-2 Propanol
Isoprene	2-Methoxy-1 Propanol
Isopropanol	Methyl Acetate
Isopropyl Acetate	Methyl Acrylate*
Isopropyl Formate	Methyl Alcohol
Isopropyl Mercaptan	3-methylchlolanthrene
Isosafrole	Methyl Chlorocarbonate
Isozaflutole	Methylcholanthrene-3
	n,n-bis-methylethyl
Kerosene	Methyl Ethyl Ketone

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 6

Methyl Ethyl Morpholine	Nitric Acid
Methyl Formate	Nitric Oxide
3-methylhexane	Nickel*
Methyl Hydrazine	Nitroaniline-p (solid)
Methyl Iodide	Nitrobenzene*
Methyl Isobutyl Ketone	Nitrodium-n-butylamine-N
Methyl Isocyanate	Nitroglycerin (glyceryl)
1-Methyl-2-Pyrrolidinone NMP	Nitropropene-2
Methyl Mercaptan	Nitrophenol*
Methylmercaptopropionaldehyde	Nitrophenol-4 (solid)
Methyl Methacrylate	2,4-dinitrophenol
n-methyl morpholine	2-nitropropane
Methylnaphthalene*	Nitrosopipindine-n
Methyl Parathion	Nitrosuliethylamine-n
4-methyl-2-pentanone	Nitro-o-toluidine-5
2-(3,5-bis(methylphenylethyl)-2 hydroxyphenyl	Nitroso-N-ethylurea-N
Methyl Propyl Ketone	Nitroso-N-methylurea-N
n-methyl pyrillidone	N-nitrosodi-N-propylamine
Methyl Tert-Butyl Ether	m-Nitrotoluene
tetramethylthiuram disulfide	2,6-dinitrotoluene
n-nitroso-n-methylurethane	Nonanal
Methylal	Nonene
Methylthiouracil	tert-nonyl mercaptan
Methylcyclohexanol	Novalar resins
Methylene-bis-ortho-chloroaniline	Octane
Methylene Chloride	Octanol
Methylpyridine-2	n-Octyl Mercaptan*
Methyl vinyl bis (N-methylacetamides) silane	Orthovanillin
Mitomycin c	Paraldehyde
Molybdenum	Pelargonic Acid*
Monochloroethylene	Pentachlorobenzene
Monoethanolamine*	Pentachloroethane
Monoisopropylamine	n-pentane
Monomethyl ether hydroquinone	Pentanol
Monopropylene Glycol	n-Pentanoic Acid*
Morpholine	Pentenenitrile
Muscimol	3-pentenenitrile
Naphtha	Perchloroethylene
Naphthalene	Petroleum Distillates
1,4-naphthoquinone	Petroleum Distillates, Hydraulic Fluid
Naphthylamine-beta (solid)	Petroleum Oil
	Phenacetin

# APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 7

Phenanthrene*	Propylene
Phenol	Propylene Dichloride
2,4 bis(alpha, alpha-dimethyl benzyl) phenol)	Propylene Glycol*
Phenothiazine	Propylene Glycol Acetate
4-bromophenyl phenyl ether	Propylene Glycol Methyl Ether
Phenyl mercaptan	Propylene Glycol Monoethyl Ether
Phosgene*	Propylene Glycol Monoethyl Ether Acetate
Phosphine*	Propyleneimine, inhibited
Phosphorus Pentasulfide	n-Propylmercaptan*
Phthalic anhydride	Propxur
Pinene-alpha	Pyridine*
Pinene-beta	Pyridine, 4-amino-
Piperylene	n-nitrosopyrrolidine
Poast herbicide	n-vinyl-2-pyrrolidinone
Polyester Glycol	Quaternarium Salts
Polyethylbenzene	Quintozene (solid)
Polyethylene	Reactive Sulfides
Polyethylene glycol dimethyl ether	Red Oil
Polyisobutyleneamine	Reserpine
Polyoxyalkyleneamine	Resorcinol
Polypropylene*	Rhodium*
Polystyrene	Safrole
Potassium Acetate	Sassafras Oil
Potassium Carbonate	Selenium*
Process Oil	Soap
Promamide	Sodium Hydroxide*
Propane	Sodium Hypochlorite
2-amino-1,3-propanediol	Sodium Methoxide
2-amino-2-ethyl-1,3-propanediol	Sodium Methylmeraptide
2-amino-2-methyl-1,3-propanediol	Sodium Nitrate
Propane Sultone	Sodium Sulfate*
Propanil	Sodium Sulfide
Propanol	Sodium Thiosulfate*
2-amino-2-methyl-propanol	Sosafrole-1
Propargyl Alcohol*	Succinic acid
Propionaldehyde*	Succionitrile
Propionic Acid	Sulfolane
Propionitrile	Sulfur*
Propionitrile, 3-chloro	Styrene
Propyl Acetate	Sulfate Turpentine
Propylamine	Sulfolane
Propyl Heptenal	
n-nitrosodi-n-propylamine	

APPROVED CHEMICAL LIST FOR HAZARDOUS WASTE OPERATIONS

Permit Number 4802/PSDTX1260

Page 8

Sulfurized isobutylene	Triethylene Glycol
Taxol	Trifluralin
Terbufos	Trimellitic Anhydride
Terphenyl	Trimethylbenzene
Tert Amyl Alcohol	Tripolyamine
Tert Butyl Alcohol	Tri-n-propylamine*
Di-tert nonyl polysulfide (TNPS)	2,4,6-Trinitrophenol*
Tertiary amine	Trypan blue
Tetrachloroethane	Undecane
Tetrachloroethylene	Uracil Mustard
Tetraethylene Glycol	n-Valeraldehyde
Tetrahydrofuran	4-keto-1-valeric acid
Tetrahydrothiophene	Vanillin
Thiamethoxam	Vinyl Acetate
Thioacetamide (solid)	Vinyl Acetate Polymer
Thiofanox	Vinyl Chloride
1-acetyl-2-thiourea	4-Vinyl cyclohexene-1*
Thiourea (2-chlorophenyl)-	Vinyl Methyl Ether
TDI Polymers*	Vinylidene
Thiosemicarbazide (solid)	Vinylidene Chloride
Titanium tetrachloride	Vinyltrimethoxysilane
Toluene	Warfarin*
Toluene Diamine*	p-Xylene
o-toluenediamine	Xylene
2,4-toluene diisocyanate	Xylidine (p-dimethylaminoazobenzene)
2,6-toluene diisocyanate	
o-toluic acid	
Toluidine	
Toluidine hydrochloride-o	
4-chloro-o-toluidine hydrochloride	
Toxaphene*	
Triallyl Amine*	
Tributylamine	
Tributyl phosphate	
1,2,4-Trichlorobenzene	
1,1,1-Trichloroethane	
1,1,2-Trichloroethane	
Trichloroethene	
Trichloroethylene	
Trichlorofluoromethane	
Tridecane	
Triethanolamine*	
Triethylamine*	

\* These compounds are subject to the emission rate limits of the July 2004 dispersion modeling report.

Dated: February 10, 2012

**EMISSION SOURCES – MAXIMUM ALLOWABLE EMISSION RATES**

Permit Number 4802/PSDTX1260

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)
104	Regeneration Unit No. 2 Stack (8)	Cl <sub>2</sub>	5.70	25.00
		CO	0.84	0.18
		H <sub>2</sub> SO <sub>4</sub> (10)	6.06	22.67
		HCl	0.28	1.23
		NO <sub>x</sub>	37.20	162.90
		PM	4.01	12.47
		PM <sub>10</sub>	4.01	12.47
		PM <sub>2.5</sub>	4.01	12.47
		SO <sub>2</sub>	1250.00	5475.00
		VOC	0.01	0.01
104	Regeneration Unit No. 2 Stack (9)	Cl <sub>2</sub>	5.70	25.00
		CO	0.01	0.05
		H <sub>2</sub> SO <sub>4</sub> (10)	7.19	20.99
		HCl	0.16	0.70
		NO <sub>x</sub>	37.20	61.95
		PM	4.01	12.47
		PM <sub>10</sub>	4.01	12.47
		PM <sub>2.5</sub>	4.01	12.47
		SO <sub>2</sub>	143.75	377.78
		VOC	0.01	0.01
120	Vapor Combustor Standby Operation for Backup	CO	1.51	3.33
		NO <sub>x</sub>	1.80	3.96
		PM <sub>10</sub>	0.14	0.30
		SO <sub>2</sub>	0.01	0.02
		VOC	0.10	0.22
120	Vapor Combustor (6) (Startup, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	Cl <sub>2</sub>	0.14	0.09
		CO	0.40	0.27
		HCl	0.06	0.04
		NO <sub>x</sub>	0.48	0.32
		PM <sub>10</sub>	0.04	0.02
		SO <sub>2</sub>	0.01	0.01
		VOC	22.22	3.41
128	Regenerator No. 2 Preheater (1,000 hours per rolling 12-months)	CO	2.07	1.03
		NO <sub>x</sub>	2.46	1.23

## Emission Sources – Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
		PM <sub>10</sub> SO <sub>2</sub> VOC	0.19 0.02 0.14	0.10 0.01 0.07
170	Vapor Combustor 2 Normal Operation	CO NO <sub>x</sub> SO <sub>2</sub> VOC	4.28 2.15 0.01 0.08	0.30 0.15 0.01 0.01
170	Vapor Combustor 2 (6) (Furnace Startup, Shutdown, and Maintenance 1,314 hours per rolling 12-months)	Cl <sub>2</sub> CO HCl NO <sub>x</sub> SO <sub>2</sub> VOC	0.40 15.30 2.07 1.78 2.02 12.90	0.03 4.85 0.13 0.57 0.13 0.86
170	Vapor Combustor 2 (6) (Storage Tanks 48, 49, 53 and 56 Planned Inspection Purge Control Option One)	CO NO <sub>x</sub> SO <sub>2</sub> VOC	10.81 1.26 0.02 0.05	1.48 0.17 0.01 0.01
CATSCNR2	Catalyst Screening for Regeneration Unit No. 2 Converter (6)	PM PM <sub>10</sub> PM <sub>2.5</sub>	0.01 0.01 0.01	0.01 0.01 0.01
MSS-HAZTK1	Hazardous Waste Tanks (F2, F3) and T554, Planned MSS Purge (6)	VOC	0.02	0.01
MSS-HAZTK2	Hazardous Waste Tanks (B1, B2, H1 and H2) Planned MSS Purge (6)	VOC	0.01	0.01
TKINSPMSS1	Tank 78 Planned Inspection Purge (6)	CO C <sub>2</sub> H <sub>4</sub> NO <sub>x</sub> SO <sub>2</sub> VOC (7)	3.04 0.01 1.12 0.08 0.05	0.75 0.01 0.35 0.09 0.06
TKINSPMSS2	Tanks 48, 49, 53 and 56 Planned Inspection Purge (6)	CO C <sub>2</sub> H <sub>4</sub> NO <sub>x</sub> SO <sub>2</sub> VOC (7)	3.04 0.01 1.12 0.08 0.05	0.40 0.01 0.19 0.01 0.01
FE2	Process Fugitives (5)	SO <sub>2</sub>	0.05	0.20
FE3	Process Fugitives (5)	SO <sub>2</sub>	0.01	0.03
FE-12	Fugitives from HW Equipment (5)	VOC	0.04	0.19

## Emission Sources – Maximum Allowable Emission Rates

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lbs/hour	TPY (4)
FE-13	Fugitives from HW Equipment (5)	VOC	0.02	0.10
FE-14	Fugitives from HW Equipment (5)	VOC	0.01	0.01
FUG-SA1	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub> SO <sub>2</sub> VOC	0.41 0.12 0.09	1.79 0.37 0.35
FUG-SA2	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub> SO <sub>2</sub> VOC	0.07 0.03 0.02	0.31 0.08 0.07
FUG-SA3	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub> SO <sub>2</sub> VOC	0.03 0.06 0.03	0.11 0.18 0.08
FUG-SA4	Spent Acid Process Fugitives (5)	H <sub>2</sub> SO <sub>4</sub> SO <sub>2</sub> VOC	0.30 0.13 0.08	1.34 0.38 0.30

- (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) C<sub>2</sub>H<sub>4</sub> - ethylene  
CO - carbon monoxide  
Cl<sub>2</sub> - chlorine  
H<sub>2</sub>SO<sub>4</sub> - sulfuric acid  
HCl - hydrogen chloride  
NO<sub>x</sub> - total oxides of nitrogen  
PM - particulate matter greater than 10 microns in diameter  
PM<sub>10</sub> - particulate matter (PM) equal to or less than 10 microns in diameter.  
PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter  
SO<sub>2</sub> - sulfur dioxide  
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
- (6) Planned startup, shutdown, and maintenance emissions
- (7) Ethylene emissions are not included in the VOC emission total.
- (8) Pre emission control
- (9) Post emission control effective on and after April 1, 2014
- (10) PSDTX1260 pollutant

Emission Sources – Maximum Allowable Emission Rates

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

Hrs/day 24 Days/week 7 Weeks/year 52

Date: February 10, 2012