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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY CLASS I PERMIT

COMPANY NAME: Arizona Clean Fuels Yuma, LLC
FACILITY NAME: Arizona Clean Fuels
PERMIT NUMBER: 40140
DATE ISSUED:
EXPIRATION DATE:

SUMMARY

This operating permit is issued to Arizona Clean Fuels Yuma, LLC, the Permittee, for operation of the Arizona Clean Fuels petroleum refinery. The permitted facility will be located on an approximately 1,450-acre site approximately 40 miles east of Yuma, near the town of Tacna, in Yuma County.

The permitted facility will have the capacity to refine approximately 150,000 barrels per day (4.6 million gallons per day) of crude oil and approximately 1.8 million gallons per day of other petroleum-based materials. The primary products of the refinery will be gasoline, jet fuel, propane, and diesel fuel.

The major process units at the proposed refinery will include a crude distillation unit, a delayed coking unit, a hydrocracker, a distillate hydrotreater, a naphtha hydrotreater, a naphtha catalytic reforming unit, a butane conversion unit, a benzene reduction unit, and an isomerization unit. Supporting process units will include a gas concentration unit, a hydrogen generation unit, an amine regeneration unit, two sulfur recovery units, a sour water stripper, two steam boilers, a wastewater treatment plant, a tank farm, product loading facilities, a mechanical-draft wet cooling tower, and three internal-combustion engines used to drive emergency equipment.

Emission units, emitting activities, and pollution control equipment at the permitted refinery will include the following:

- Fifty-one storage tanks for petroleum liquids. Five of these tanks will be equipped with vapor control systems vented to compressors and forty-six will be equipped with internal floating roofs and vapor control systems vented to a thermal oxidizer;
- Two steam boilers fired with natural gas. These boilers will be equipped with low-NO_X burners and flue gas recirculation;
- Eighteen process heaters fired with refinery fuel gas. Each of these heaters will be equipped with low-NO_X burners; nine will also be equipped with selective catalytic reduction;

- Two sulfur recovery units, equipped with a common tail gas treatment unit and thermal oxidizer;
- Catalyst regenerators at the catalytic reforming unit and the butane conversion unit, each equipped with a caustic wet scrubber;
- Equipment leaks, emissions from which will be minimized through implementation of a leak detection and repair program;
- Coker pit;
- Coke storage silo, equipped with a fabric filter baghouse;
- Coke railcar loading system;
- Two emergency flares;
- Truck loading rack, equipped with a vapor control system and thermal oxidizer;
- Wastewater treatment plant, equipped with a thermal oxidizer;
- Wastewater treatment plant solids dryer, equipped with a fabric filter baghouse;
- Three diesel-fired reciprocating internal combustion engines used to drive two emergency fire water pumps and an emergency electric generator;
- A mechanical-draft wet cooling tower, equipped with a high-efficiency drift eliminator; and
- Vehicle traffic on paved and unpaved roads.

All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code (A.A.C.) R18-2-101 and Title 40 of the Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All material permit conditions have been identified within the permit by a double underline. All terms and conditions in this permit are enforceable by the Administrator of the U.S. Environmental Protection Agency, except for those terms and conditions that have been designated as "State Requirements."

The Arizona Clean Fuels Yuma, LLC petroleum refinery will be a major source because the potential emission rates of the following pollutants are greater than 100 tons per year: particulate matter (PM), PM_{10}; nitrogen oxides (NO_X), carbon monoxide (CO), and volatile organic compounds (VOC). In addition, the proposed refinery has potential emission rates of hazardous air pollutants in excess of 25 tons per year in total.

This permit is issued in accordance with Titles I and V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes (ARS).

TABLE OF CONTENTS

ATTACHMENT "A": GENERAL PROVISIONS 4

ATTACHMENT "B": SPECIFIC CONDITIONS 19

ATTACHMENT "C": PROCESS AND CONTROL EQUIPMENT LIST 476

ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit Number 1001205
for
Arizona Clean Fuels Yuma, LLC

Table of Contents

ATTACHMENT "A": GENERAL PROVISIONS 5

I. PERMIT EXPIRATION AND RENEWAL 5
II. COMPLIANCE WITH PERMIT CONDITIONS 5
III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE 5
IV. POSTING OF PERMIT 6
V. FEE PAYMENT 6
VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE 6
VII. COMPLIANCE CERTIFICATION 6
VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS 7
IX. INSPECTION AND ENTRY 7
X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD 8
XI. ACCIDENTAL RELEASE PROGRAM 8
XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING 8
XIII. RECORD KEEPING REQUIREMENTS 13
XIV. REPORTING REQUIREMENTS 14
XV. DUTY TO PROVIDE INFORMATION 14
XVI. PERMIT AMENDMENT OR REVISION 14
XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION 14
XVIII. TESTING REQUIREMENTS 16
XIX. PROPERTY RIGHTS 17
XX. SEVERABILITY CLAUSE 17
XXI. PERMIT SHIELD 17
XXII. PROTECTION OF STRATOSPHERIC OZONE 17
XXIII. APPLICABILITY OF NSPS GENERAL PROVISIONS 17
XXIV. APPLICABILITY OF NESHAP GENERAL PROVISIONS 18

I. PERMIT EXPIRATION AND RENEWAL [ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS [A.A.C. R18-2-306.A.8.a and b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.

B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE [A.A.C. R18-2-306.A.8.c, -321.A.1, and -321.A.2]

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Clean Air Act become applicable to the Class I source. Such a reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless an application for renewal has been submitted pursuant to A.A.C. R18-2-322.B. Any permit revision required pursuant to this subparagraph shall comply with the provisions in A.A.C. R18-2-322 for permit renewal and shall reset the five year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and reissue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under Condition III.B.1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in Condition III.B.1 above shall not result in a resetting of the five year permit term.

IV. POSTING OF PERMIT [A.A.C. R18-2-315]

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

V. FEE PAYMENT [A.A.C. R18-2-306.A.9 and -326]

The Permittee shall pay fees to the Director pursuant to ARS § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE [A.A.C. R18-2-327.A and B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION [A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the

previous year and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period,

3. The status of compliance with the terms and conditions of this permit for the period covered by the certification, based on the methods or means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take it into account for consideration in the compliance certification;

4. For emission units subject to 40 CFR Part 64, the certification shall also identify as possible exceptions to compliance any period during which compliance is required and in which an excursion or exceedance defined under 40 CFR Part 64 occurred;

5. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

6. Other facts the Director may require to determine the compliance status of the source.

B. A copy of all compliance certifications shall also be submitted to the EPA Administrator.

C. If any outstanding compliance schedule exists, a progress report shall be submitted with the semi-annual compliance certifications required in Condition VII.A above.

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[A.A.C. R18-2-304.H]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD [A.A.C. R18-2-304.C]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

XI. ACCIDENTAL RELEASE PROGRAM [40 CFR Part 68]

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting [A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a.(1) above.

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

(3) Date, time and duration, or expected duration, of the excess emissions;

(4) Identity of the equipment from which the excess emissions emanated;

(5) Nature and cause of such emissions;

(6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

(7) Steps taken to limit the excess emissions. If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.

[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting [A.A.C. R18-2-306.A.5.b]

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. A report submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time the deviation occurred shall be considered prompt.

C. Emergency Provision [A.A.C. R18-2-306.E]

1. An “emergency” means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to

the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

b. The permitted facility was being properly operated at the time;

c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule [ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected with 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown [A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

a. Promulgated pursuant to Sections 111 or 112 of the Act;

b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

d. Contained in A.A.C. R18-2-715.F; or

e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. *Affirmative Defense for Malfunctions During Scheduled Maintenance*

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. *Demonstration of Reasonable and Practicable Measures*

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS [A.A.C. R18-2-306.A.4]

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample,

measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS [A.A.C. R18-2-306.A.5.a]

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A."

B. Excess emission, permit deviation, and emergency reports in accordance with Section XII of Attachment "A."

C. Other reports required by any condition of Attachment "B."

XV. DUTY TO PROVIDE INFORMATION [A.A.C. R18-2-304.G and -306.A.8.e]

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION [A.A.C. R18-2-318, -319, and -320]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

A. Administrative Permit Amendment (A.A.C. R18-2-318);

B. Minor Permit Revision (A.A.C. R18-2-319); and

C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION [A.A.C. R18-2-306.A.4 and -317]

A. The Permittee may make changes at the permitted source without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under ARS § 49-401.01(19);

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions;

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements;

4. The changes satisfy all requirements for a minor permit revision under A.A.C. R18-2-319.A; and

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements.

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of Conditions XVII.A and XVII.C of this Attachment.

C. For each change under Conditions XVII.A and XVII.B above, a written notice by certified mail or hand delivery shall be received by the Director and the Administrator a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change, but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible.

D. Each notification shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made to Conditions XVII.A and XVII.B above.

F. Except as otherwise provided for in the permit, making a change from one alternative operating scenario to another as provided under A.A.C. R18-2-306.A.11 shall not require any prior notice under this Section.

G. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes

submitted by the same source under this Section over the term of the permit, do not satisfy Condition XVII.A above.

XVIII. TESTING REQUIREMENTS [A.A.C. R18-2-312]

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

B. Operational Conditions During Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation which demonstrates good cause must be submitted.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS [A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE [A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD [A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield." The permit shield shall not apply to minor revisions pursuant to Condition XVI.B of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. PROTECTION OF STRATOSPHERIC OZONE [40 CFR part 82]

If this source becomes subject to the provisions of 40 CFR part 82, then the Permittee shall comply with these provisions accordingly.

XXIII. APPLICABILITY OF NSPS GENERAL PROVISIONS [40 CFR 60 subpart A]

For all equipment subject to a New Source Performance Standard, the Permittee shall comply with all applicable requirements contained in subpart A of title 40, part 60 of the Code of Federal Regulations.

XXIV. APPLICABILITY OF NESHAP GENERAL PROVISIONS

[40 CFR 61 subpart A, 40 CFR 63 subpart A]

For all equipment subject to a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in subpart A of title 40, parts 61 and 63 of the Code of Federal Regulations.

ATTACHMENT "B": SPECIFIC CONDITIONS

Air Quality Control Permit Number 1001205
for
Arizona Clean Fuels Yuma, LLC

Table of Contents

CRUDE DISTILLATION UNIT 21

GAS CONCENTRATION PLANT 40

HYDROCRACKER UNIT 47

NAPHTHA HYDROTREATER UNIT 67

CATALYTIC REFORMING UNIT 81

ISOMERIZATION UNIT 123

DISTILLATE HYDROTREATER UNIT 124

BUTANE CONVERSION UNIT 143

BENZENE REDUCTION UNIT 173

DELAYED COKING UNIT 174

PETROLEUM COKE STORAGE, HANDLING, AND LOADING 189

AMINE REGENERATION UNIT 196

SOUR WATER STRIPPER 205

SULFUR RECOVERY PLANT 215

HYDROGEN PLANT 244

GROUP "A" STORAGE TANKS 263

GROUP "B" STORAGE TANKS 270

GROUP "D" STORAGE TANKS 292

GROUP "E" STORAGE TANKS 294

TRUCK AND RAIL CAR LOADING RACKS 297

BENZENE WASTE OPERATION 326

WASTEWATER TREATMENT PLANT 361

EQUIPMENT LEAKS 383

EMERGENCY FLARES 418

STEAM BOILERS 425

COOLING TOWER 441

INTERNAL COMBUSTION ENGINES 458

FUGITIVE DUST AND MISCELLANEOUS OTHER SOURCES 463

AMBIENT AIR QUALITY MONITORING 474

I. CRUDE UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Atmospheric Crude Charge Heater (B-01300)	Natural gas or RFG-fired, 346 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-1
Vacuum Crude Charge Heater (B-02100)	Natural gas or RFG-fired, 101 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-1
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Atmospheric Crude Charge Heater to exceed 346 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to the Vacuum Crude Charge Heater to exceed 101 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standards

a. Initial NO_X limits

For the first 24 months of operation, starting on the date of initial startup of each affected heater, the Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain NO_X in excess of 0.0125 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average. The limits imposed under this Condition shall be referred to herein as the "initial NO_X limits."

[A.A.C. R18-2-406(A)(4)]

b. Revised NO_X limits

After the first 24 months of operation, the Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain NO_X in excess of the emission rate limit determined in accordance with Conditions I.B.4.b(1) through I.B.4.b(4). The limits established under this Condition shall be referred to herein as the "revised NO_X limits."

[A.A.C. R18-2-406(A)(4)]

(1) The revised NO_X limits for the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater shall be expressed in units of lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

(2) In lieu of establishing a revised NO_X limit for an affected heater pursuant to Conditions I.B.4.b(3) through I.B.4.b(4), the Permittee may accept a revised NO_X limit of 0.006 lb per MMBtu heat input. If the Permittee elects this compliance option for an affected heater, no demonstration study is required for that heater, and the Permittee shall demonstrate compliance with the revised NO_X limit beginning 24 months after the date of initial startup of that heater.

[A.A.C. R18-2-406(A)(4)]

(3) Except as provided by Condition I.B.4.b(2), the Permittee shall conduct an SCR performance demonstration study for each affected

heater and shall submit to the Director a report documenting the results of such study. The report shall include the revised NO_X limit proposed by the Permittee.

[A.A.C. R18-2-406(A)(4)]

(a) Each SCR performance demonstration study shall be submitted to the Director within 21 months after the date of initial startup of the affected heater.

[A.A.C. R18-2-406(A)(4)]

(b) Each SCR performance demonstration study report submitted in accordance with Condition I.B.4.b(3)(a) shall be considered to be an application for a significant permit revision pursuant to A.A.C. R18-2-320 and shall conform to the requirements for permit applications established in A.A.C. R18-2-304.

[A.A.C. R18-2-406(A)(4)]

(c) For any heater for which the Permittee fails to submit an SCR performance demonstration study in accordance with Condition I.B.4.b(3)(a), the Permittee shall be deemed to have accepted a revised NO_X limit pursuant to Condition I.B.4.b(2).

[A.A.C. R18-2-406(A)(4)]

(d) The revised NO_X limit proposed in the study report submitted pursuant to Condition I.B.4.b(3)(a) shall represent the limit at which continuous compliance can be reasonably anticipated, based upon a statistical analysis of data collected by the NO_X and ammonia continuous emissions monitoring system required by Condition I.D.3.a. Data collected during the first sixty days of heater operation and during periods of startup, shutdown, malfunction, or noncompliance shall not be considered this analysis. The statistical analysis procedure used shall yield a one-sided (upper) tolerance limit, with 99 percent confidence that 99 percent of the valid data will indicate compliance during periods of normal operation.

[A.A.C. R18-2-406(A)(4)]

(e) For each affected heater for which the Permittee conducts an SCR performance demonstration study pursuant to Condition I.B.4.b(3), the Permittee shall demonstrate compliance with revised NO_X limit proposed in the study report submitted pursuant to Condition I.B.4.b(3)(a) beginning 24 months after the date of initial startup of the heater. No revision to the permit shall be required before this applicable requirement takes effect.

[A.A.C. R18-2-406(A)(4)]

(4) For each affected heater for which the Permittee submits an SCR performance demonstration study report pursuant to Condition I.B.4.b(3)(a), the Director will establish a revised NO_X limit based on the results of the SCR performance demonstration study.

[A.A.C. R18-2-406(A)(4)]

(a) The revised NO_X limit will be incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day U.S. EPA review period per A.A.C. R18-2-320.D.

[A.A.C. R18-2-406(A)(4)]

(b) If the Director approves the NO_X limit proposed by the Permittee in the study report submitted pursuant to Condition I.B.4.b(3)(a), the revised NO_X limit will be equal to the proposed NO_X limit. If the Director disapproves the proposed NO_X limit, the revised NO_X limit incorporated into the permit pursuant to Condition I.B.4.b(4)(a) may be different from the proposed NO_X limit.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Ammonia Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain ammonia in excess of 5.0 ppmvd, corrected to 0.0 percent oxygen, based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

7. Organic HAP Emission Standard

a. Except as provided in Condition I.B.7.b, the Permittee shall not cause or allow to be emitted to the atmosphere from the Atmospheric Crude Charge Heater or the Vacuum Crude Charge Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

b. The carbon monoxide work practice standard in Condition I.B.7.a shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

d. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

e. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

f. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

8. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. At all times when the Atmospheric Crude Charge Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. At all times when the Vacuum Crude Charge Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition I.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition I.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition I.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately

represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition I.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition I.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition I.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition I.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, O_2, and Ammonia

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, O_2, and ammonia in gases emitted to the atmosphere from the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater.

b. Performance Specifications

(1) The NO_X continuous emission monitoring systems shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring systems shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring systems shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

(4) The ammonia continuous emission monitoring systems shall be maintained and operated in accordance with performance specifications to be established in a monitoring plan approved by the Director pursuant to Condition I.D.4.b.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition I.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) Measured CO concentration in ppmv shall be multiplied by 7.26×10^{-8} to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition I.D.4.b.

d. Compliance with the NO_X, CO, and ammonia emission limitations in Conditions I.B.4 through I.B.6, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition I.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition I.D.3.a exceeds the emission standard in Condition I.B.4.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Conditions I.D.3.a exceeds the emission standard in Condition I.B.5.

(3) All 3-hour periods for which the ammonia emission rate to the atmosphere as determined in accordance with Conditions I.D.3.a exceeds the emission standard in Condition I.B.7.

[A.A.C. R18-2-331 and A.A.C. R18-2-406(A)(4)]

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions I.D.2.a and I.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include proposed performance specifications for the ammonia continuous emission monitoring system substantially equivalent to those set forth in Performance Specification 5 in appendix B to 40 CFR part 60.

(2) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(3) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition I.D.3.d(2).

(4) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition I.E.2 is conducted.

(5) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational

status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain continuous emission monitoring systems for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater. The CO continuous emission monitoring systems required by Condition I.D.3.a may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) Each continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition I.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) Each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For each continuous emission monitoring system required by Condition I.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval each site-specific monitoring plan required by Condition I.D.5.b. The Permittee shall submit each site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition I.D.5.c.

[40 CFR 63.7505(d)(1)]

(2) Each site-specific monitoring plan required by Condition I.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heater such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. The Permittee shall conduct a performance evaluation of each continuous emission monitoring system in accordance with the site-specific monitoring plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater, the Permittee shall demonstrate initial compliance with the work practice standard in Condition I.B.7.a no later than 180 days after startup of said heater. The initial compliance demonstration is the performance evaluation required by Condition I.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For each continuous emission monitoring system required by Condition I.D.5.a, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions I.D.6 and I.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of compliance demonstrations and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(5) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(6) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(7) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(8) Records of all monitoring data and calculated averages for carbon monoxide to show continuous compliance with the work practice standard in Condition I.B.7.a.

[40 CFR 63.7555(c)]

(9) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(10) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition I.B.7.a. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Condition I.D.5.d, the Permittee shall submit a Notification of Compliance Status according to the

requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions I.D.6.c(1) through I.D.6.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data to show that the work practice standard in Condition I.B.7.a has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition I.B.7.a was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions I.D.7.a through I.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions I.D.7.b(2)(a) through I.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(e) If there are no deviations from the work practice standard in Condition I.B.7.a, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(f) If there were no periods during which the continuous emission monitoring system was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition I.B.7.a, the compliance report shall contain the information required by Conditions I.D.7.b(3)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition I.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions I.D.5 or I.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions I.E.2 and I.E.3. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition I.E.2.b, the Permittee shall determine compliance with Condition I.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition I.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition I.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. Particulate Matter Performance Tests

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Atmospheric Crude Charge Heater and the Vacuum Crude Charge Heater. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

II. GAS CONCENTRATION PLANT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
De-Ethanizer Column (V-03310)	Distillation column	Combust vent stream in RFG combustion devices	Not applicable
Depropanizer Column (V-03410) and Condenser (E-03410)	Distillation column with recovery device	Combust vent stream in RFG combustion devices	Not applicable
Debutanizer Column (V-03420) and Condenser (E-03420)	Distillation column with recovery device	Not applicable	Not applicable
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. NSPS Emission Standards for Distillation Units

a. For each vent stream from an affected distillation unit, on and after the date on which the initial performance test required by Condition II.D.1 is completed, but not later than 60 days after achieving the maximum production rate at which the distillation unit will be operated, or 180 days after the initial start-up, whichever date comes first, the Permittee shall control emissions as follows:

[A.A.C. R18-2-901(65) {40 CFR 60.662(a)}]

(1) The Permittee shall reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

(2) <u>For each process heater used to comply with Condition II.B.1.a(1), the vent stream shall be introduced into the flame zone of the process heater.</u>

b. For the purpose of Condition II.B.1.a, the affected distillation units shall be the De-Ethanizer Column, Depropanizer Column, Debutanizer Column, and the associated recovery systems.

[A.A.C. R18-2-331(A)(3)(e), R18-2-901(65) {40 CFR 60.662(a)}]

2. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring of Emissions and Operations for Distillation Units

a. For each process heater used to comply with Condition II.B.1, the Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:
[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)}]

(1) A flow indicator that provides a record of vent stream flow to the process heater at least once every hour for each affected facility. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each process heater and before being joined with any other vent stream.
[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)(1)}]

(2) A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 ºC, whichever is greater, for process heaters of less than 44 MW (150 MMBtu/hr) heat input design capacity.
[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)(2)}]

b. For each process heater used to comply with Condition II.B.1, the Permittee shall monitor and record the periods of operation of the process heater if the design heat input capacity of the process heater is 44 MW (150 MMBtu/hr) or greater. The records must be readily available for inspection.
[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(d)}]

2. Reporting and Recordkeeping for Distillation Units

a. For each performance test of a process heater used to comply with Condition II.B.1, as required by Condition II.D.1, the Permittee shall keep an up-to-date, readily accessible record of the following data measured during the performance test, and also include the following data in the report of the initial performance test required under 40 CFR 60.8.
[A.A.C. R18-2-901(65) {40 CFR 60.665(b)}]

(1) A description of the location at which the vent stream is introduced into the process heater, and

[A.A.C. R18-2-901(65) {40 CFR 60.665(b)(2)(i)}]

(2) The average combustion temperature of the process heater with a design heat input capacity of less than 44 MW (150 MMBtu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing.

[A.A.C. R18-2-901(65) {40 CFR 60.665(b)(2)(ii)}]

b. Where a process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater is used to comply with Condition II.B.1.a(1), a report containing performance test data need not be submitted, but a report containing the information in Condition II.C.2.a(1) is required.

[A.A.C. R18-2-901(65) {40 CFR 60.665(b)}]

c. The data specified in Condition II.C.2.a shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a control device or the outlet concentration of TOC is determined.

[A.A.C. R18-2-901(65) {40 CFR 60.665(b)}]

d. The Permittee shall keep up-to-date, readily accessible continuous records of the equipment operating parameters specified to be monitored under Conditions II.C.1.a(1) and II.C.1.a(2) as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. The Director may at any time require a report of these data.

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)}]

e. The Permittee shall keep up to date, readily accessible continuous records of the flow indication required to be monitored under Condition II.C.1.a.(1), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.

[A.A.C. R18-2-901(65) {40 CFR 60.665(d)}]

f. For each process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater used to comply with Condition II.B.1.a(1), the Permittee shall keep an up-to-date, readily accessible record of all periods of operation of the process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other regulatory requirements.)

[A.A.C. R18-2-901(65) {40 CFR 60.665(e)}]

g. The Permittee is exempt from the quarterly reporting requirements contained in § 60.7(c) of the General Provisions of 40 CFR part 60.

[A.A.C. R18-2-901(65) {40 CFR 60.665(k)}]

h. At the time of compliance certifications, the Permittee shall submit to the Director semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)}]

(1) Exceedances of monitored parameters recorded under Condition II.C.2.d.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(1)}]

(2) All periods recorded under Condition II.C.2.e when the vent stream is diverted from the control device or has no flow rate.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(2)}]

(3) All periods recorded under Condition II.C.2.f when the process heater was not operating.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(3)}]

3. Excess Emissions for Distillation Units

a. For the purpose of Condition II.C.2.h(1), periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)}]

(1) All 3-hour periods of operation during which the average combustion temperature was more than 28 ºC (50 ºF) below the average combustion temperature during the most recent performance test at which compliance with Condition II.B.1(a)(1) was determined for process heaters with a design heat input capacity of less than 44 MW (150 MMBtu/hr).

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)(3)}]

(2) For process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under Condition II.B.1.a(2).

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)(4)}]

4. Alternative Monitoring Plan

As an alternative to the monitoring, recordkeeping, and reporting provisions of Conditions II.C.1 and II.C.2, the Permittee may comply with an alternative monitoring plan that has been approved by the Director pursuant to 40 CFR 60.13(i).

[A.A.C. R18-2-901(1) {40 CFR 60.13(i)}]

D. Testing Requirements

1. The Permittee shall perform performance tests in accordance with Conditions II.D.2 through II.D.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-406(A)(4), R18-2-901(1) {40 CFR 60.8(a)}]

2. For the purpose of performance tests, required under 40 CFR 60.8, for demonstrating compliance with Condition II.B.1, all affected facilities shall be run at full operating conditions and flow rates during any performance test.

[A.A.C. R18-2-901(65) {40 CFR 60.664(a)}]

3. Except as provided under 40 CFR 60.8(b), the following test methods in appendix A to 40 CFR part 60 shall be used as reference methods to determine compliance with the emission limit or percent reduction efficiency specified under Condition II.B.1.a(1).

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)}]

a. Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determination of vent stream molar composition or TOC (less methane and ethane) reduction efficiency shall be prior to the inlet of the control device and after the recovery system.

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(1)}]

b. Method 2, 2A, 2C, or 2D, as appropriate, for determination of the gas volumetric flow rates.

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(2)}]

c. The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration ($\%O_{2d}$) for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the TOC samples, and the samples shall be taken during the same time that the TOC samples are taken. The TOC concentration corrected to 3 percent O_2 (C_C) shall be computed using the following equation:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(3)}]

$$C_C = C_{TOC} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C_C = Concentration of TOC corrected to 3 percent O_2, dry basis, ppm by volume.

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.

$\%O_{2d}$ = Concentration of O_2, dry basis, percent by volume.

d. Method 18 to determine the concentration of TOC in the control device outlet and the concentration of TOC in the inlet when the reduction efficiency of the control device is to be determined.

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)}]

(1) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used then the samples shall be taken at 15-minute intervals.

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(i)}]

(2) The emission reduction (R) of TOC (minus methane and ethane) shall be determined using the following equation:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(ii)}]

$$R = \frac{E_i - E_o}{E_i} \times 100$$

where:

R =	Emission reduction, percent by weight.
E_i =	Mass rate of TOC entering the control device, kg/hr (lb/hr).
E_o =	Mass rate of TOC discharged to the atmosphere, kg/hr (lb/hr).

(3) The mass rates of TOC (E_i, E_o) shall be computed using the following equations:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(iii)}]

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij}, C_{oj} =	Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppm by volume.
M_{ij}, M_{oj} =	Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).
Q_i, Q_o =	Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/min).
K_2 =	2.494×10^{-6} (1/ppm)(g-mole/scm) (kg/g) (min/hr) (metric units), where standard temperature for (g-mole/scm) is 20 ºC.
=	1.557×10^{-7} (1/ppm) (lb-mole/scf) (min/hr) (English units), where standard temperature for (lb-mole/scf) is 68 ºF.

(4) The TOC concentration (C_{TOC}) is the sum of the individual components and shall be computed for each run using the following equation:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(iv)}]

$$C_{TOC} = \sum_{j=1}^{n} C_j$$

where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.
C_j = Concentration of sample components "j," dry basis, ppm by volume.
n = Number of components in the sample.

4. When a process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater is used to seek to comply with Condition II.B.1, the requirement for an initial performance test is waived, in accordance with 40 CFR 60.8(b). However, the Director reserves the option to require testing at such other times as may be required, as provided for in section 114 of the Act.

[A.A.C. R18-2-901(65) {40 CFR 60.664(c)}]

E. Permit Shield

Compliance with the terms of Section II shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-901(65) {40 CFR 60.662 through 60.665}.

[A.A.C. R18-2-325]

III. HYDROCRACKER UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Hydrocracker Unit Charge Heater (B-10200)	Natural gas or RFG-fired, 70 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-6
Hydrocracker Unit Main Fractionator Heater (B-10500)	Natural gas or RFG-fired, 211 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-6
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Hydrocracker Unit Charge Heater or the Main Fractionator Heater any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Hydrocracker Unit Charge Heater to exceed 70 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to the Main Fractionator Heater to exceed 211 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Hydrocracker Unit Charge Heater or the Main Fractionator Heater any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Hydrocracker Unit Charge Heater or the Main Fractionator Heater any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrocracker Unit Charge Heater or the Main Fractionator Heater any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standards

a. The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrocracker Unit Charge Heater any gases which contain NO_X in excess of 0.034 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrocracker Unit Main Fractionator Heater any gases which contain NO_X in excess of 0.025 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrocracker Unit Charge Heater or the Main Fractionator Heater any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Organic HAP Emission Standards

a. Except as provided in Condition III.B.6.c, the Permittee shall not cause or allow to be emitted to the atmosphere from the Main Fractionator Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

b. Except as provided in Condition III.B.6.c, the Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrocracker Unit Charge Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

c. The carbon monoxide work practice standard in Conditions III.B.6.a and III.B.6.b shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

d. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

e. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

f. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

g. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. At all times when the Hydrocracker Unit Charge Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. At all times when the Hydrocracker Unit Main Fractionator Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Hydrocracker Unit Charge Heater and the Main Fractionator Heater in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition III.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Hydrocracker Unit Charge Heater and the Main Fractionator Heater. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition III.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition III.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition III.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition III.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition III.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition III.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Hydrocracker Unit Charge Heater and the Main Fractionator Heater in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, and O_2

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Hydrocracker Unit Charge Heater and the Main Fractionator Heater.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test*

procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring system shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition III.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) Measured CO concentration in ppmv shall be multiplied by 7.26×10^{-8} to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition III.D.4.b.

d. Compliance with the NO_X and CO emission limitations in Conditions III.B.4 and III.B.5, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition III.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition III.D.3.a exceeds the emission standard in Condition III.B.4.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition III.D.3.a exceeds the emission standard in Condition III.B.5.

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions III.D.2.a and III.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(2) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition III.D.3.c(2).

(3) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition III.E.2 is conducted.

(4) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain a continuous emission monitoring system for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Main Fractionator Heater. The CO continuous emission monitoring system required by Condition III.D.3.a may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) The continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition III.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) The continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during

periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For the continuous emission monitoring system required by Condition III.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval the site-specific monitoring plan required by Condition III.D.5.b. The Permittee shall submit the site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition III.D.5.c.

[40 CFR 63.7505(d)(1)]

(2) The site-specific monitoring plan required by Condition III.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heater such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. For the continuous emission monitoring system required by Condition III.D.5.a, the Permittee shall conduct a performance evaluation of the continuous emission monitoring system required by Condition III.D.5.a in accordance with the site-specific monitoring plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Main Fractionator Heater, the Permittee shall demonstrate initial compliance with the work practice standards in Condition III.B.6.a no later than 180 days after startup of each heater. The initial compliance demonstration is the performance evaluation required by Condition III.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For the Hydrocracker Unit Charge Heater and the Main Fractionator Heater, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions III.D.6 and III.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests, compliance demonstrations, and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

f. For the Main Fractionator Heater, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(3) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(5) Records of all monitoring data and calculated averages for carbon monoxide to show continuous compliance with the work practice standard in Condition III.B.6.a.

[40 CFR 63.7555(c)]

(6) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(7) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Conditions III.B.6.a and III.B.6.b. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Conditions III.D.5.d and III.E.3.a, the Permittee shall submit a Notification of Compliance Status

according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions III.D.6.c(1) through III.D.6.c(5).

[40 CFR 63.7515(g), 40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data and the maximum carbon monoxide emission levels recorded during the performance test to show that the work practice standards in Conditions III.B.6.a and III.B.6.b have been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standards in Conditions III.B.6.a and III.B.6.b were not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standards were not met. These instances are deviations from the work practice standards. These deviations must be reported according to the requirements in Conditions III.D.7.a through III.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions III.D.7.b(2)(a) through III.D.7.b(2)(g).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition III.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standards in Conditions III.B.6.a and III.B.6.b, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(g) If there were no periods during which the continuous emission monitoring system required by Condition III.D.5.a was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition III.B.6.b, the compliance report shall contain the information required by Conditions III.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the Hydrocracker Unit Charge Heater during the reporting period.

[40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7550(d)(3)]

(4) For each deviation from the work practice standard in Condition III.B.6.a, the compliance report shall contain the information required by Conditions III.D.7.b(4)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition III.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions III.D.5 or III.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition III.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable information required by Conditions III.D.7.b(2)(a) through III.D.7.b(2)(g).
[40 CFR 63.7515(g)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions III.E.2 through III.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.
[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition III.E.2.b, the Permittee shall determine compliance with Condition III.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.
[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition III.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition III.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures

For the Hydrocracker Unit Charge Heater, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition III.B.6.b in accordance with Conditions III.E.3.a through III.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition III.B.6.b no later than 180 days after startup of said heater. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition III.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition III.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least 1 hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Hydrocracker Unit Charge Heater and the Main Fractionator Heater. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

IV. NAPHTHA HYDROTREATER UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Naphtha Hydrotreater Charge Heater (B-04200)	Natural gas or RFG-fired, 21.4 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-4
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Naphtha Hydrotreater Charge Heater any fuel other than natural gas and RFG.
[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Naphtha Hydrotreater Charge Heater to exceed 21.4 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.
[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Naphtha Hydrotreater Charge Heater any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.
[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Naphtha Hydrotreater Charge Heater any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.
[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Naphtha Hydrotreater Charge Heater any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.
[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Naphtha Hydrotreater Charge Heater any gases which contain NO_X in excess of 0.030 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Naphtha Hydrotreater Charge Heater any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Organic HAP Emission Standard

a. Except as provided in Condition IV.B.6.b, the Permittee shall not cause or allow to be emitted to the atmosphere from the Naphtha Hydrotreater Charge Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

b. The carbon monoxide work practice standard in Condition IV.B.6.a shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

d. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

e. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

f. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission

Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

At all times when the Naphtha Hydrotreater Charge Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Naphtha Hydrotreater Charge Heater in accordance with the following:

a. For each hour of operation, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition IV.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Naphtha Hydrotreater Charge Heater. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition IV.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition IV.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition IV.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition IV.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition IV.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition IV.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Naphtha Hydrotreater Charge Heater in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, and O_2

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Naphtha Hydrotreater Charge Heater.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring system shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition IV.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) Measured CO concentration in ppmv shall be multiplied by 7.26×10^{-8} to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition I.D.4.b.

d. Compliance with the NO_X and CO emission limitations in Conditions IV.B.4 and IV.B.5, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition IV.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition IV.D.3.a exceeds the emission standard in Condition IV.B.4.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition IV.D.3.a exceeds the emission standard in Condition IV.B.5.

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions IV.D.2.a and IV.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(2) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition IV.D.3.c(2).

(3) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition IV.E.2 is conducted.

(4) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director

within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions IV.D.6 and IV.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests and compliance demonstrations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(5) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition IV.B.6.a. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For the initial compliance demonstration required by Condition IV.E.3.a, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the performance test according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions IV.D.6.c(1) through IV.D.6.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the maximum carbon monoxide emission levels recorded during the performance test to show that the work practice standard in Condition IV.B.6.a has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition IV.B.6.a was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met.

These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions IV.D.7.a through IV.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions IV.D.7.b(2)(a) through IV.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition IV.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standard in Condition IV.B.6.a, a statement that there were no deviations from the work practice standard during the reporting period.

[40 CFR 63.7550(c)(10)]

(3) For each deviation from the work practice standard in Condition IV.B.6.a, the compliance report shall contain the information required by Conditions IV.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the Naphtha Hydrotreater Charge Heater during the reporting period.

[40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7550(d)(3)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Condition IV.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition IV.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable information required by Conditions IV.D.7.b(2)(a) through IV.D.7.b(2)(f).

[40 CFR 63.7515(g)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions IV.E.2 through IV.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition IV.E.2.b, the Permittee shall determine compliance with Condition IV.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition IV.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition IV.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in

depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures

For the Naphtha Hydrotreater Charge Heater, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition IV.B.6.a in accordance with Conditions IV.E.3.a through IV.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition IV.B.6.a no later than 180 days after startup. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition IV.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition IV.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least one hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Naphtha Hydrotreater Charge Heater. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

V. CATALYTIC REFORMING UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Catalytic Reforming Unit Charge Heater (B-05110)	Natural gas or RFG-fired, 122 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-2
Catalytic Reforming Unit Interheater No. 1 (B-05120)	Natural gas or RFG-fired, 192 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-2
Catalytic Reforming Unit Interheater No. 2 (B-05130)	Natural gas or RFG-fired, 129 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-2
Catalytic Reforming Unit Debutanizer Reboiler (B-05609)	Natural gas or RFG-fired, 23.2 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-3
Catalyst Regenerator (V-05800)	Regeneration of catalyst using perchloroethylene	Caustic wet scrubber	EP-11
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, or Debutanizer Reboiler any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Catalytic Reforming Unit Charge Heater to exceed 122 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to Catalytic Reforming Unit Interheater No. 1 to exceed 192 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

d. The Permittee shall not cause or allow the heat input to Catalytic Reforming Unit Interheater No. 2 to exceed 129 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

e. The Permittee shall not cause or allow the heat input to the Catalytic Reforming Unit Debutanizer Reboiler to exceed 23.2 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Emission Standards for RFG Combustion Devices

a. Sulfur Dioxide Emission Standards

(1) The Permittee shall not cause or allow to be combusted in the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, or Debutanizer Reboiler any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

(2) The Permittee shall not cause or allow to be combusted in the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, or Debutanizer Reboiler any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

b. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, or Debutanizer Reboiler any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

c. Nitrogen Oxides Emission Standards

(1) Catalytic Reforming Unit Charge Heater, Catalytic Reforming Unit Interheater No. 1, and Catalytic Reforming Unit Interheater No. 2

(a) Initial NO_X limits

For the first 24 months of operation, starting on the date of initial startup of each affected heater, the Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater, the Catalytic Reforming Unit Interheater No. 1, or the Catalytic Reforming Unit Interheater No. 2 any gases which contain NO_X in excess of 0.0125 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average. The limits

imposed under this Condition shall be referred to herein as the "initial NO_X limits."

[A.A.C. R18-2-406(A)(4)]

(b) Revised NO_X limits

After the first 24 months of operation, the Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater, the Catalytic Reforming Unit Interheater No. 1, or the Catalytic Reforming Unit Interheater No. 2 any gases which contain NO_X in excess of the emission rate limit determined in accordance with Conditions V.B.2.c(1)(b)(1) through V.B.2.c(1)(b)(4). The limits established under this Condition shall be referred to herein as the "revised NO_X limits."

[A.A.C. R18-2-406(A)(4)]

1) The revised NO_X limits shall be expressed in units of lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

2) In lieu of establishing a revised NO_X limit for an affected heater pursuant to Conditions V.B.2.c(1)(b)(3) through V.B.2.c(1)(b)(4), the Permittee may accept a revised NO_X limit of 0.006 lb per MMBtu heat input. If the Permittee elects this compliance option for an affected heater, no demonstration study is required for that heater, and the Permittee shall demonstrate compliance with the revised NO_X limit beginning 24 months after the date of initial startup of that heater.

[A.A.C. R18-2-406(A)(4)]

3) Except as provided by Condition V.B.2.c(1)(b)(2), the Permittee shall conduct an SCR performance demonstration study for each affected heater and shall submit to the Director a report documenting the results of such study. The report shall include the revised NO_X limit proposed by the Permittee.

[A.A.C. R18-2-406(A)(4)]

a) Each SCR performance demonstration study shall be submitted to the Director within 21 months after the date of initial startup of the affected heater.

[A.A.C. R18-2-406(A)(4)]

b) Each SCR performance demonstration study report submitted in accordance with Condition V.B.2.c(1)(b)(3)(a) shall be considered to be an application for a significant permit revision pursuant to A.A.C. R18-2-320 and shall conform to the requirements for permit applications established in A.A.C. R18-2-304.

[A.A.C. R18-2-406(A)(4)]

c) For any heater for which the Permittee fails to submit an SCR performance demonstration study in accordance with Condition V.B.2.c(1)(b)(3)(a), the Permittee shall be deemed to have accepted a revised NO_X limit pursuant to Condition V.B.2.c(1)(b)(2).

[A.A.C. R18-2-406(A)(4)]

d) The revised NO_X limit proposed in the study report submitted pursuant to Condition V.B.2.c(1)(b)(3)(a) shall represent the limit at which continuous compliance can be reasonably anticipated, based upon a statistical analysis of data collected by the NO_X and ammonia continuous emissions monitoring system required by Condition V.D.3.a. Data collected during the first sixty days of heater operation and during periods of startup, shutdown, malfunction, or noncompliance shall not be considered this analysis. The statistical analysis procedure used shall yield a one-sided (upper) tolerance limit, with 99 percent confidence that 99 percent of the valid data will indicate compliance during periods of normal operation.

[A.A.C. R18-2-406(A)(4)]

e) For each affected heater for which the Permittee conducts an SCR performance demonstration study pursuant to Condition V.B.2.c(1)(b)(3), the Permittee shall demonstrate compliance with revised NO_X limit proposed in the study report submitted pursuant to Condition V.B.2.c(1)(b)(3)(a) beginning 24 months after the date of initial startup of the heater. No revision to the permit shall be required

before this applicable requirement takes effect.

[A.A.C. R18-2-406(A)(4)]

4) For each affected heater for which the Permittee submits an SCR performance demonstration study report pursuant to Condition V.B.2.c(1)(b)(3)(a), the Director will establish a revised NO_X limit based on the results of the SCR performance demonstration study.

[A.A.C. R18-2-406(A)(4)]

a) The revised NO_X limit will be incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day U.S. EPA review period per A.A.C. R18-2-320.D.

[A.A.C. R18-2-406(A)(4)]

b) If the Director approves the NO_X limit proposed by the Permittee in the study report submitted pursuant to Condition V.B.2.c(1)(b)(3)(a), the revised NO_X limit will be equal to the proposed NO_X limit. If the Director disapproves the proposed NO_X limit, the revised NO_X limit incorporated into the permit pursuant to Condition V.B.2.c(1)(b)(5)(a) may be different from the proposed NO_X limit.

[A.A.C. R18-2-406(A)(4)]

(2) Catalytic Reforming Unit Debutanizer Reboiler

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Debutanizer Reboiler any gases which contain NO_X in excess of 0.030 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

d. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, or Debutanizer Reboiler any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

e. Organic HAP Emission Standards

(1) Except as provided in Condition V.B.2.e(3), the Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater or Interheater Nos. 1 or 2 any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

(2) Except as provided in Condition V.B.2.e(3), the Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Debutanizer Reboiler any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

(3) The carbon monoxide work practice standard in Conditions V.B.2.e(1) and V.B.2.e(2) shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

(4) The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

(5) The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

(6) During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

(7) Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

f. Ammonia Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater or Interheater Nos. 1 or 2 any gases which contain ammonia in excess of 5.0 ppmvd, corrected to 0.0 percent oxygen, based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

3. Emission Standards for the Catalyst Regenerator

a. Nitrogen Oxides Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Catalyst Regenerator any gases which contain NO_X in excess of 0.82 lb/hr, based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Catalyst Regenerator any gases which contain CO in excess of 0.50 lb/hr, based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

c. Visible Emissions Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Catalytic Reforming Unit Catalyst Regenerator any air contaminant, other than uncombined water, in excess of 5 percent opacity, based on a six-minute average.

[A.A.C. R18-2-406(A)(4) and R18-2-702(B)]

d. Organic HAP Emission Standards

(1) Except as provided in Condition V.B.3.d(4), during depressuring and purging operations, the Permittee shall control emissions of TOC from each Catalytic Reforming Unit process vent by using a caustic wet scrubber. The caustic wet scrubber shall reduce uncontrolled emissions of TOC to a concentration that is equal to or less than 20 ppmvd, corrected to 3 percent oxygen.

[A.A.C. R18-2-1101(B)(58),40 CFR 63.1566(a)(1)(ii)]

(2) Except as provided in Condition V.B.3.d(4), during depressuring and purging operations, the Permittee shall operate the Catalyst Regenerator such that the daily average ratio of perchloroethylene feed rate to catalyst circulation rate in the Catalyst Regenerator does not exceed the limit established during the performance test.

[A.A.C. R18-2-406(A)(4)]

(3) The emission limitations in Conditions V.B.3.d(1) and V.B.3.d(2) apply to emissions from Catalytic Reforming Unit process vents that occur during depressuring and purging operations. These process

vents include those used during unit depressurization, purging, coke burn, catalyst rejuvenation, and reduction or activation purge.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(a)(3)]

(4) The emission limitations in Conditions V.B.3.d(1) and V.B.3.d(2) do not apply to emissions from Catalytic Reforming Unit process vents during depressuring and purging operations when the reactor vent pressure is 5 pounds per square inch gauge (psig) or less.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(a)(4)]

e. Inorganic HAP Emission Standards

(1) During Catalytic Reforming Unit coke burn-off and catalyst rejuvenation, the Permittee shall reduce uncontrolled emissions of HCl from each process vent in accordance with one of the following:
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(a)(1)]

(a) Reduce uncontrolled emissions of HCl by 97 percent by weight using a control device; or

(b) Reduce uncontrolled emissions of HCl to a concentration of 10 ppmv (dry basis), corrected to 3 percent oxygen.

(2) During Catalytic Reforming Unit coke burn-off and catalyst rejuvenation, the Permittee shall operate the caustic wet scrubber in accordance with the following:

(a) The daily average pH of the water (or scrubbing liquid) exiting the caustic wet scrubber must not fall below the limit established during the performance test; and

(b) The daily average liquid-to-gas ratio must not fall below the limit established during the performance test.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(a)(2)]

f. General Requirements for Catalyst Regenerator

(1) The Permittee shall prepare an operation, maintenance, and monitoring plan according to the requirements in Condition V.D.11 and shall operate at all times according to the procedures in the plan.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(a)(5), 40 CFR 63.1567(a)(3)]

(2) The Permittee shall be in compliance with Conditions V.B.3.d, V.B.3.e, and V.B.3.d(1) at all times except during periods of startup, shutdown, and malfunction.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(a); 40 CFR 63.6(f)(1) by ref.]

(3) The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(d)]

(4) During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(e)]

(5) Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The startup, shutdown, and malfunction plan must require that good air pollution control practices are used during those periods. The plan must also include elements designed to minimize the frequency of such periods (i.e., root cause analysis). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e) and the contents of the startup, shutdown, and malfunction plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(g)]

4. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. Catalytic Reforming Unit Charge Heater and Interheater Nos. 1 and 2

At all times when the Catalytic Reforming Unit Charge Heater or Interheater Nos. 1 or 2 is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. Catalytic Reforming Unit Debutanizer Reboiler

At all times when the Catalytic Reforming Unit Debutanizer Reboiler is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

3. Catalyst Regenerator

At all times when the Catalyst Regenerator is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the caustic wet scrubber in a manner consistent with good air pollution control practice for minimizing hazardous air pollutant emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, and Debutanizer Reboiler in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition V.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate continuous monitoring systems for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stacks of the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, and Debutanizer Reboiler. Each monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition V.B.2.a(1) shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition V.B.2.a(2) shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for these SO_2 monitors under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition V.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition V.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition V.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition V.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, and Debutanizer Reboiler in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, O_2, and Ammonia

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, O_2, and ammonia in gases emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater and Interheater Nos. 1 and 2.

b. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Catalytic Reforming Unit Debutanizer Reboiler.

c. Performance Specifications

(1) The NO_X continuous emission monitoring systems shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring systems shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring systems shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

(4) The ammonia continuous emission monitoring system shall be maintained and operated in accordance with performance specifications to be established in a monitoring plan approved by the Director pursuant to Condition V.D.4.b.

d. Pollutant concentration data recorded by the continuous emission monitoring systems required by Conditions V.D.3.a and V.D.3.b shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26×10^{-8} to obtain a concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition V.D.4.b.

e. Compliance with the NO_X, CO, and ammonia emission limitations in Conditions V.B.2.c, V.B.2.d, and V.B.2.f, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition V.D.3.a and V.D.3.b.

f. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition V.D.3.a exceeds the emission standard in Condition V.B.2.c(1).

(2) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition V.D.3.b exceeds the emission standard in Condition V.B.2.c(2).

(3) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Conditions V.D.3.a or V.D.3.b exceeds the emission standard in Condition V.B.2.d.

(4) All 3-hour periods for which the ammonia emission rate to the atmosphere as determined in accordance with Condition V.D.3.a exceeds the emission standard in Condition V.B.2.f.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

g. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions V.D.2.a, V.D.3.a, and V.D.3.b, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include proposed performance specifications for the ammonia continuous emission monitoring system substantially equivalent to those set forth in Performance Specification 5 in appendix B to 40 CFR part 60.

(2) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(3) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition V.D.3.d(2).

(4) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition V.E.2 is conducted.

(5) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain a continuous emission monitoring system for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Catalytic Reforming Unit Charge Heater and Interheater Nos. 1 and 2. The CO continuous emission monitoring system required by Condition V.D.3.a may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) The continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition V.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) The continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For the continuous emission monitoring system required by Condition V.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval the site-specific monitoring plan required by Condition V.D.5.b. The Permittee shall submit the site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition V.D.5.c.

[40 CFR 63.7505(d)(1)]

(2) The site-specific monitoring plan required by Condition V.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heaters such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. For the continuous emission monitoring system required by Condition V.D.5.a, the Permittee shall conduct a performance evaluation of the continuous emission monitoring system required by Condition V.D.5.a in accordance with the site-specific monitoring plan, according to the

requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Catalytic Reforming Unit Charge Heater and Interheater Nos. 1 and 2, the Permittee shall demonstrate initial compliance with the work practice standard in Condition V.B.2.e(1) no later than 180 days after startup of each heater. The initial compliance demonstration is the performance evaluation required by Condition V.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, and Debutanizer Reboiler, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions V.D.6 and V.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests, compliance demonstrations, and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

f. For the Catalytic Reforming Unit Charge Heater and Interheater Nos. 1 and 2, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(3) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(5) Records of all monitoring data and calculated averages for CO to show continuous compliance with the work practice standard in Condition V.B.2.e(1).

[40 CFR 63.7555(c)]

(6) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(7) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Conditions V.B.2.e(1) and V.B.2.e(2). The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Conditions V.D.5.d and V.E.3.a, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions V.D.6.c(1) through V.D.6.c(5).

[40 CFR 63.7515(g), 40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the work practice standards in Conditions V.B.2.e(1) and V.B.2.e(2) have been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standards in Conditions V.B.2.e(1) and V.B.2.e(2) were not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standards were not met. These instances are deviations from the work practice standards. These deviations must be reported according to the requirements in Conditions V.D.7.a through V.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions V.D.7.b(2)(a) through V.D.7.b(2)(g).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition V.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standards in Conditions V.B.2.e(1) and V.B.2.e(2), a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(g) If there were no periods during which the continuous emission monitoring system required by Condition V.D.5.a was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition V.B.2.e(2), the compliance report shall contain the information required by Conditions V.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the Catalytic Reforming Unit Debutanizer Reboiler during the reporting period.

[40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7550(d)(3)]

(4) For each deviation from the work practice standard in Condition V.B.2.e(1), the compliance report shall contain the information required by Conditions V.D.7.b(4)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition V.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions V.D.5 or V.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition V.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable information required by Conditions V.D.7.b(2)(a) through V.D.7.b(2)(g).

[40 CFR 63.7515(g)]

8. Monitoring and Recordkeeping for the Catalyst Regenerator

a. The Permittee shall install, operate, and maintain continuous parameter monitoring systems for the Catalytic Reforming Unit Catalyst Regenerator as follows:

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(1), 40 CFR 63.1567(c)(1), 40 CFR 63.1572(c)(1)]

(1) A continuous parameter monitoring system to measure and record the ratio of perchloroethylene feed rate to catalyst circulation rate in the Catalyst Regenerator. This monitoring system shall be installed, maintained, and operated as follows:

(a) The monitoring system shall include the following subsystems:

1) A subsystem for monitoring and recording perchloroethylene feed rate;

2) A subsystem for monitoring and recording catalyst circulation rate; and

3) A subsystem for calculating and recording the daily average ratio of perchloroethylene feed rate to catalyst circulation rate.

(b) The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

1) The monitoring plan shall address the monitoring system performance criteria listed in Conditions V.D.8.a(1)(c) through (e).

2) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition V.E.2 is conducted.

3) Upon approval by the Director, the monitoring plan shall be implemented.

(c) The monitoring system and each subsystem shall be designed, installed, maintained, and operated to provide for obtaining data that are representative of the parameters being monitored (such as detector location and installation specifications, if applicable).

(d) The monitoring system and each subsystem shall be designed and installed to provide for verification procedures to confirm the operational status of the monitoring prior to the date of initial startup of the Catalytic Reforming Unit Catalyst Regenerator. The Permittee shall consider the monitoring equipment manufacturer's requirements or recommendations for installation, calibration, and start-up operation.

(e) The monitoring system and each subsystem shall be designed, installed, maintained, and operated with quality assurance and control practices that are adequate to ensure the continuing validity of the data. The Permittee shall consider manufacturer recommendations or requirements applicable to the monitoring in developing appropriate quality assurance and control practices.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4)]

(2) Except as provided in Condition V.D.8.a(5), a continuous parameter monitoring system to measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation. This monitoring system shall be installed, maintained, and operated as follows:

(a) Locate the pH sensor in a position that provides a representative measurement of pH;

(b) Ensure the sample is properly mixed and representative of the fluid to be measured;

(c) Check the pH meter's calibration on at least two points every 8 hours of process operation;

(d) At least monthly, inspect all components for integrity and all electrical components for continuity;

(e) Record the results of each inspection.

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(1), 40 CFR 63.1567(c)(1), 40 CFR 63.1572(c)(1)]

(3) A continuous parameter monitoring system to measure and record the gas flow rate to the scrubber during coke burn-off and catalyst rejuvenation. This monitoring system shall be installed, maintained, and operated as follows:

(a) Locate the flow sensor(s) and other necessary equipment such as straightening vanes in a position that provides representative flow;

(b) Use a flow rate sensor with an accuracy within ± 5 percent;

(c) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances;

(d) Conduct a flow sensor calibration check at least semiannually;

(e) Record the results of each calibration; and

(f) Install the monitoring system as close as practical to the control device.

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(1), 40 CFR 63.1567(c)(1), 40 CFR 63.1572(c)(1)]

(4) A continuous parameter monitoring system to measure and record the total water (or scrubbing liquid) flow rate to the scrubber during

coke burn-off and catalyst rejuvenation. This monitoring system shall be installed, maintained, and operated as follows:

(a) Locate the flow sensor(s) and other necessary equipment such as straightening vanes in a position that provides representative flow;

(b) Use a flow rate sensor with an accuracy within ± 5 percent;

(c) Reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances;

(d) Conduct a flow sensor calibration check at least semiannually; and

(e) Record the results of each calibration.

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(1), 40 CFR 63.1567(c)(1), 40 CFR 63.1572(c)(1)]

(5) As an alternative to the continuous parameter monitoring system required by Condition V.D.8.a(2), pH strips can be used to measure the pH of the water (or scrubbing liquid) exiting a wet scrubber, in accordance with the following requirements:

(a) The pH strips shall have an accuracy of ±10 percent.

(b) The pH of the water (or scrubbing liquid) exiting the scrubber must be measured and recorded at least once an hour during coke burn-off and catalyst rejuvenation.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(1), 40 CFR 63.1567(c)(1), 40 CFR 63.1573(b)]

b. The Permittee shall install, operate, and maintain each of the continuous parameter monitoring systems required by Condition V.D.8.a in accordance with the following requirements:

(1) The continuous parameter monitoring system must be installed, operated, and maintained in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

(2) The continuous parameter monitoring system must complete a minimum of one cycle of operation for each successive 15-minute period. The system must produce a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

(3) The continuous parameter monitoring system must have valid hourly average data from at least 75 percent of the hours during which the process operated.

(4) The continuous parameter monitoring system must determine and record the hourly average of all recorded readings and if applicable, the daily average of all recorded readings for each operating day. The daily average must cover a 24-hour period if operation is continuous or the number of hours of operation per day if operation is not continuous.

(5) The continuous parameter monitoring system must record the results of each inspection, calibration, and validation check.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), A.A.C. R18-2-1101(B)(58), 40 CFR 63.1572(c)]

c. In order to show continuous compliance with Condition V.B.3.d(2), the Permittee shall collect and maintain records of the hourly and daily average perchloroethylene feed rate, hourly and daily average catalyst circulation rate, and daily average ratio of perchloroethylene feed rate to catalyst circulation rate according to Condition V.D.8.a(1). The daily average ratio of perchloroethylene feed rate to catalyst circulation rate shall be calculated, for each calendar day, as the ratio of the daily average perchloroethylene feed rate to the daily average catalyst circulation rate.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. In order to show continuous compliance with Condition V.B.3.e(2)(a), the Permittee shall keep records as follows:

(1) Except as provided in Condition V.D.8.d(2), the Permittee shall collect the hourly and daily average pH monitoring data according to Condition V.D.8.a(2).

(2) If the Permittee elects to comply with the monitoring alternative in Condition V.D.8.a(5), the Permittee shall record the pH of the water (or scrubbing liquid) exiting the scrubber every hour and shall determine and record the daily average pH.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(d)]

e. In order to show continuous compliance with Condition V.B.3.e(2)(b), the Permittee shall keep the following records.

(1) Hourly average gas flow rate monitoring data collected in accordance with Conditions V.D.8.a(3) and V.D.8.b.

(2) Hourly average total water (or scrubbing liquid) flow rate monitoring data collected in accordance with Conditions V.D.8.a(4) and V.D.8.b.

(3) The Permittee shall determine and record the hourly average liquid-to-gas ratio.

(4) The Permittee shall determine and record daily average liquid-to-gas ratio.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(d)]

f. The Permittee shall monitor and collect data under Conditions V.D.8.a through V.D.8.e according to the following requirements.

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the Catalytic Reforming Unit is operating.

(2) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for purposes of this regulation, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1572(d)]

g. The Permittee may request approval from the Director to use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (e.g., once every hour) but records all values that meet set criteria for variation from previously recorded values. Such a request must contain a description of the monitoring system and data recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets the following criteria:

(1) The system measures the operating parameter value at least once every hour;

(2) The system records at least 24 values each day during periods of operation;

(3) The system records the date and time when monitors are turned off or on;

(4) The system recognizes unchanging data that may indicate the monitor is not functioning properly, alerts the operator, and records the incident; and

(5) The system computes daily average values of the monitored operating parameter based on recorded data.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1573(c)]

h. The Permittee shall demonstrate continuous compliance with the work practice standards in Condition V.B.3.d(1) by maintaining records to document conformance with the procedures in the operation, maintenance and monitoring plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(c)(2), 40 CFR 63.1567(c)(2)]

i. The Permittee shall demonstrate initial compliance with the work practice standards in Condition V.B.3.d(1) by submitting the operation, maintenance, and monitoring plan to the Administrator as part of the Notification of Compliance Status.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(b)(8), 40 CFR 63.1567(b)(5)]

j. The Permittee shall keep the following records:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)]

(1) A copy of each notification and report submitted pursuant to Conditions V.D.9 and V.D.10. These records shall include all documentation supporting any initial notification or Notification of Compliance Status submitted, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(1)]

(2) The records in 40 CFR § 63.6(e)(1)(iii) through (v) related to startup, shutdown, and malfunction.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(2)]

(3) Records of performance tests and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(3)]

k. The Permittee shall keep a current copy of the operation, maintenance, and monitoring plan, required by Condition V.B.3.d(1), onsite and available for inspection. The Permittee shall also keep records to show continuous compliance with the procedures in the operation, maintenance, and monitoring plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(e)]

l. In order to demonstrate compliance with Conditions V.B.3.d through V.B.3.d, the Permittee shall keep records of any changes that affect emission control system performance.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(f)]

m. Records required to be kept under Conditions V.D.8.a through V.D.8.l shall meet the following requirements:

(1) Records must be in a form suitable and readily available for expeditious review according to 40 CFR § 63.10(b)(1).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(g)]

(2) As specified in 40 CFR § 63.10(b)(1), each record shall be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(h)]

(3) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept offsite for the remaining 3 years.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(i)]

n. During the period between the initial startup of the Catalyst Regenerator and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been set, the Permittee shall maintain a log detailing the operation and maintenance of the Catalyst Regenerator and emissions control equipment.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(c)]

9. Notifications for the Catalyst Regenerator

a. The Permittee shall submit the Notification of Compliance Status, containing the results of the initial compliance demonstration, according to the requirements in Conditions V.D.9.b and V.D.9.c.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(b)(9), 40 CFR 63.1567(b)(6)]

b. Except as allowed in Conditions V.D.9.b(1) and V.D.9.b(2), the Permittee shall submit all of the notifications in 40 CFR part 63, subpart A, §§ 63.6(h), 63.7(b) and (c), 63.8(e), 63.8(f)(4), 63.8(f)(6), and 63.9(b) through (h), as applicable, by the dates specified.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(a)]

(1) The Permittee shall submit the notification of intent to conduct a performance test required in § 63.7(b) at least 30 calendar days before the performance test is scheduled to begin (instead of 60 days).

(2) For each performance test, performance evaluation, design evaluation, or other initial compliance demonstration, the Permittee shall submit a notification of compliance status according to § 63.9(h)(2)(ii). This information can be submitted in an amendment to an operating permit application, in a separate submission, or in any combination. The Permittee shall provide duplicate notification to the applicable Regional Administrator.

(a) If the required information has been submitted previously, the Permittee is not required to provide a separate notification of compliance status. In this case, the Permittee shall provide a notification referring to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

(b) For each initial compliance demonstration that does not include a performance test, the Permittee shall submit the Notification of Compliance Status no later than 30 calendar days following completion of the initial compliance demonstration.

(c) For each initial compliance demonstration that includes a performance test, the Permittee shall submit the notification of compliance status, including the performance test results, no later than 150 calendar days after initial startup of the Catalyst Reforming Unit.

c. The Permittee shall include the following information in the notification of compliance status:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(d)]

(1) The following information relating to identification of the affected sources and emission points:

(a) Nature, size, design, method of operation, and operating design capacity of the affected source.

(b) Identify each emission point for each HAP.

(2) The following information relating to initial compliance:

(a) Identification of each applicable emission limitation, including any option selected (i.e., percent reduction or concentration).

(b) Certification that the vents meet the applicable emission limit.

(c) Identification of the operating limit for the affected source, including supporting documentation.

(d) A brief description of performance test conditions (capacity, feed quality, catalyst, etc.).

(e) An engineering assessment pursuant to Condition V.E.7.b (if applicable).

(3) The following information relating to continuous compliance:

(a) Each monitoring option elected;

(b) Identification of any unit or vent for which monitoring is not required;

(c) The definition of "operating day." (This definition, subject to approval by the Administrator, must specify the times at which a 24-hr operating day begins and ends.)

10. Reporting for the Catalyst Regenerator

a. The Permittee shall submit compliance reports in accordance with the following:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(f), 40 CFR 63.1575(a)]

(1) The Permittee shall report each instance in which an applicable emission limitation or operating limit under Conditions V.B.3.d or V.B.3.e is not met. This includes periods of startup, shutdown, and malfunction.

(2) The Permittee shall also report each instance in which an applicable work practice standard under Condition V.B.3.d is not met.

(3) The instances listed in Conditions V.D.10.a(1) and V.D.10.a(2) are deviations from the emission limitations and work practice standards.

b. Compliance reports required by Condition V.D.10.a shall be submitted semiannually at the time of compliance certifications.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(b)]

c. Compliance reports required by Condition V.D.10.a shall contain the following information.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)]

(1) Company name and address.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(1)]

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(2)]

(3) Date of report and beginning and ending dates of the reporting period.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(3)]

(4) If there are no deviations from any applicable emission limitation and there are no deviations from the requirements for applicable work practice standards, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(4)]

d. For each deviation from an emission limitation and for each deviation from the requirements for work practice standards, the compliance report required by Condition V.D.10.a must contain the following information:
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)]

(1) The total operating time of the affected source during the reporting period. [A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(1)]

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(2)]

(3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(3)]

e. Compliance reports required by Condition V.D.10.a shall contain the following information, if applicable.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(f)]

(1) A copy of any performance test done during the reporting period on the affected unit. The report may be included in the next semiannual report. The copy must include a complete report for each test method used. A complete test report contains a brief process description; a simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; documentation of calculations; and any other information required by the test method.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(f)(1)]

(2) Any requested change in the applicability of an emission standard (e.g., if the Permittee wants to change from the HCl concentration standard to percent reduction standard). Any such request must include all information and data necessary to demonstrate compliance with the new emission standard selected and any other associated requirements.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(f)(2)]

f. Compliance reports required by Condition V.D.10.a shall include information pertaining to startups, shutdowns, and malfunctions, in accordance with the following:
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)]

(1) When actions taken to respond are consistent with the startup, shutdown, and malfunction plan, the Permittee is not required to report these events in the compliance report and the reporting requirements in 40 CFR part 63, subpart A, §§63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)(1)]

(2) When actions taken to respond are not consistent with the startup, shutdown, and malfunction plan, the Permittee shall report these events and the response taken in the compliance report. In this case, the reporting requirements in 40 CFR part 63, subpart A, §§63.6(e)(3)(iv) and 63.10(d)(5) do not apply.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)(2)]

11. Operation, Maintenance, and Monitoring Plan for Catalyst Regenerator

As required by Condition V.B.3.d(1), the Permittee shall prepare and implement an operation, maintenance, and monitoring plan for the Catalyst Regenerator and associated control systems and continuous monitoring systems. The purpose of this plan is to detail the operation, maintenance, and monitoring procedures that the Permittee will follow.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)]

a. The Permittee shall submit the plan to the Administrator for review and approval along with the notification of compliance status. The Permittee shall submit any changes to the Administrator for review and approval and shall comply with the plan until the change is approved.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(1)]

b. The plan must include, at a minimum, the information specified in Conditions V.D.11.b(1) through V.D.11.b(5).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)]

(1) Process and control device parameters to be monitored, along with established operating limits.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(i)]

(2) Procedures for monitoring emissions and process and control device operating parameters.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(ii)]

(3) Procedures to be used to determine the pH of the water (or scrubbing liquid) exiting a wet scrubber if pH strips are used.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(v)]

(4) Monitoring schedule, including when monitoring will and will not be performed for an affected source (e.g., during the coke burn-off, regeneration process).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(viii)]

(5) Maintenance schedule for each affected source, monitoring system, and control device that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(x)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests of the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, Debutanizer Reboiler, and Catalyst Regenerator in accordance with Conditions V.E.2 through V.E.5. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emissions from Process Heaters

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition V.E.2.b, the Permittee shall determine compliance with Condition V.B.2.a(1) as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition V.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition V.B.2.a(1) as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures for Process Heaters

For the Catalytic Reforming Unit Debutanizer Reboiler, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition V.B.2.e(2) in accordance with Conditions V.E.3.a through V.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition V.B.2.e(2) no later than 180 days after startup. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition V.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition V.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least 1 hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests for Process Heaters

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stacks of the Catalytic Reforming Unit Charge Heater, Interheater Nos. 1 and 2, and Debutanizer Reboiler. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

5. NO_X and CO Performance Tests for Catalyst Regenerator

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the NO_X and CO emission rates from the stack of the Catalytic Reforming Unit Catalyst Regenerator. These tests shall be performed using EPA Reference Methods 7 or 7E for NO_X emissions and EPA Reference Methods 10 or 10B for CO emissions.

6. Initial Compliance Demonstration for Catalyst Regenerator HAP Emissions

The Permittee shall determine initial compliance with Conditions V.B.3.d and V.B.3.e as provided in Conditions V.E.6.a through V.E.6.c.

a. The Permittee shall conduct a performance test in accordance with Condition V.E.7.a, establish site-specific operating limits as provided in Condition V.E.7.b, and determine initial compliance with the emission limitations under Condition V.B.3.d as provided in Condition V.E.7.c.

[A.A.C. R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(b)]

b. The Permittee shall conduct a performance test in accordance with Condition V.E.8.a, establish site-specific operating limits as provided in Condition V.E.8.b, and determine initial compliance with the emission limitations under Condition V.B.3.e as provided in Condition V.E.8.c.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)]

c. The Permittee shall conduct performance tests and performance evaluations required by Conditions V.E.7 and V.E.8 as follows.

(1) The Permittee shall conduct each performance test and shall report the results by no later than 150 calendar days after initial startup of the Catalyst Reforming Unit and according to the provisions in 40 CFR § 63.7(a)(2).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(a)]

(2) The Permittee shall conduct each performance test according to the requirements in 40 CFR § 63.7(e)(1).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(b)(1)]

(3) The Permittee shall conduct three separate test runs for each performance test as specified in 40 CFR § 63.7(e)(3). Each test run must last at least 1 hour.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(b)(2)]

(4) The Permittee shall conduct each performance evaluation according to the requirements in 40 CFR § 63.8(e).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(b)(3)]

(5) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR § 63.7(e)(1).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(b)(4)]

(6) The Permittee shall calculate the average emission rate for the performance test by calculating the emission rate for each individual test run in the units of the applicable emission limitation and determining the arithmetic average of the calculated emission rates.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(b)(5)]

7. Initial Compliance Demonstration for Catalyst Regenerator Organic HAP Emission Limitations

a. The Permittee shall conduct a performance test according to the requirements in Condition V.E.6.c and under the following conditions:
[A.A.C. R18-2-406(A)(4) and A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(b)(2)]

(1) Select the sampling site using Method 1 or 1A in appendix A to 40 CFR part 60. No traverse site selection method is needed for vents smaller than 0.10 meter in diameter. Sampling sites must be located at the outlet of the scrubber and prior to any releases to the atmosphere.

(2) Measure the TOC concentration at the outlet of the scrubber using Method 25A in appendix A to 40 CFR part 60.

(3) Determine the oxygen content in the gas stream at the outlet of the scrubber using Method 3A or 3B, as applicable, in appendix A to 40 CFR part 60.

b. The Permittee shall establish the site-specific operating limit in Condition V.B.3.d(2) according to the following procedures:

(1) After conducting the performance test according to the requirements in Condition V.E.6.c, repeat the test at least once, using the same test procedures, but under a different set of Catalyst Regenerator operating conditions, such that the operating conditions under the two or more performance tests are representative of all anticipated operating conditions in the Catalyst Regenerator.

(2) Determine and record the ratio of perchloroethylene feed rate to catalyst circulation rate during the entire period of each TOC performance test.

(3) Determine and record the operating limit as the lower of the values recorded under Condition V.E.7.b(2).

(4) The operating limit established pursuant to Condition V.E.7.b(3) may be changed by doing an additional series of performance tests to verify that, at the new operating limit, the Catalyst Regenerator is in compliance with the applicable emission limitation.

(5) If the Permittee makes any change in Catalytic Reforming Unit process or operating conditions that could affect control system performance, the operating limit established pursuant to Condition V.E.7.b(3) must be changed by doing an additional series of performance tests to verify that, at the new operating limit, the Catalyst Regenerator is in compliance with the applicable emission limitation.

[A.A.C. R18-2-406(A)(4)]

c. The Permittee shall determine initial compliance with Condition V.B.3.d(1) using the results of the performance test required under Condition V.E.7.a.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1566(b)(4) & (5)]

(1) The measured TOC concentration shall be corrected for oxygen (O_2) content in the gas stream using the following equation:

$$C_{TOC,3\%O_2} = C_{TOC}\left(\frac{17.9\%}{20.9\% - \%O_2}\right)$$

(2) Compliance is demonstrated if the TOC concentration, over the period of the performance test, does not exceed 20 ppmv (dry basis), corrected to 3 percent oxygen.

8. Initial Compliance Demonstration for Catalyst Regenerator Inorganic HAP Emission Limitations

a. The Permittee shall conduct a performance test according to the requirements in Condition V.E.6.c and under the following conditions:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(2)]

(1) Measure the HCl concentration at the outlet of the control device (for the concentration standard) or at the inlet and outlet of the control device (for the percent reduction standard) using Method 26A in appendix A to 40 CFR part 60.

(a) The sampling rate must be at least 0.014 dscm/min (0.5 dscf/min).

(b) The performance test shall be conducted during the coke burn-off and catalyst rejuvenation cycle.

(c) The performance test shall not be conducted during the first hour or the last 6 hours of the coke burn-off and catalyst rejuvenation cycle.

(2) Record the total amount (rate) of scrubbing liquid or solution and the amount (rate) of make-up liquid to the scrubber during each test run.

b. The Permittee shall establish the site-specific operating limits in Condition V.B.3.e(2) according to the following procedures:
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(3), 40 CFR 63.1571(e)]

(1) Operating limit for pH level

(a) Except as provided in Condition V.E.8.b(1)(b), the Permittee shall measure and record the pH of the water (or scrubbing liquid) exiting the scrubber every 15 minutes during the entire period of the performance test and shall determine and record the hourly average pH level from the recorded values.

(b) If the Permittee elects to comply with the monitoring alternative in Condition V.D.8.a(5), the Permittee shall measure and record the pH of the water (or scrubbing liquid) exiting the scrubber during coke burn-off and catalyst rejuvenation using pH strips at least three times during each run and shall determine and record the average pH level.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(3)]

(2) Operating limit for liquid-to-gas ratio

(a) The ratio shall be established using data from the continuous parameter monitoring systems.

(b) The Permittee shall measure and record the gas flow rate to the scrubber and the total water (or scrubbing liquid) flow rate to the scrubber every 15 minutes during the entire period of the performance test.

(c) The Permittee shall determine and record the hourly average gas flow rate and total water (or scrubbing liquid) flow rate.

(d) The Permittee shall determine and record the minimum liquid-to-gas ratio.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(3)]

(3) Changes to Operating Limits

(a) The operating limits established pursuant to Conditions V.E.8.b(1) and V.E.8.b(2) may be changed by doing an additional performance test to verify that, at the new

operating limit, the Catalyst Regenerator is in compliance with the applicable emission limitation.

(b) If the Permittee makes any change in the Catalytic Reforming Unit process or operating conditions that could affect control system performance, the operating limits established pursuant to Conditions V.E.8.b(1) and V.E.8.b(2) must be changed by doing an additional performance test to verify that, at the new operating limit, the Catalyst Regenerator is in compliance with the applicable emission limitation.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(e)]

c. The Permittee shall determine initial compliance with Condition V.B.4.a(1) using the results of the performance test required under Condition V.E.8.a. Compliance is demonstrated if the average emissions of HCl over the period of the performance test are reduced by 97 percent or to a concentration less than or equal to 10 ppmv (dry basis) corrected to 3 percent oxygen.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1567(b)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart UUU, 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

VI. ISOMERIZATION UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

VII. DISTILLATE HYDROTREATER UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Distillate Hydrotreater Charge Heater (B-08200)	Natural gas or RFG-fired, 25 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-5
Distillate Hydrotreater Splitter Reboiler (B-08509)	Natural gas or RFG-fired, 117 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-5
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Distillate Hydrotreater Charge Heater or Distillate Hydrotreater Splitter Reboiler any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Distillate Hydrotreater Charge Heater to exceed 25 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to the Distillate Hydrotreater Splitter Reboiler to exceed 117 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Distillate Hydrotreater Charge Heater or the Distillate Hydrotreater Splitter Reboiler any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Distillate Hydrotreater Charge Heater or the Distillate Hydrotreater Splitter Reboiler any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Charge Heater or the Distillate Hydrotreater Splitter Reboiler any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standard

a. The Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Charge Heater any gases which contain NO_X in excess of 0.033 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Splitter Reboiler any gases which contain NO_X in excess of 0.032 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Charge Heater or the Distillate Hydrotreater Splitter Reboiler any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Organic HAP Emission Standards

a. Except as provided in Condition VII.B.6.c, the Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Splitter Reboiler any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

b. Except as provided in Condition VII.B.6.c, the Permittee shall not cause or allow to be emitted to the atmosphere from the Distillate Hydrotreater Charge Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

c. The carbon monoxide work practice standard in Conditions VII.B.6.a and VII.B.6.b shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

d. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

e. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

f. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

g. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

At all times when the Distillate Hydrotreater Charge Heater or the Distillate Hydrotreater Splitter Reboiler is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Splitter Reboiler in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition III.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Splitter Reboiler. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition VII.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition VII.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition VII.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition VII.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition VII.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition VII.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Splitter Reboiler in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, and O_2

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Splitter.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring system shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission*

monitoring systems in stationary sources, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition VII.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26 $\times 10^{-8}$ to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition I.D.4.b.

d. Compliance with the NO_X and CO emission limitations in Conditions VII.B.5 and VII.B.6, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition VII.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition VII.D.3.a exceeds the emission standard in Condition VII.B.5.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition VII.D.3.a exceeds the emission standard in Condition VII.B.6.

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions VII.D.2.a and VII.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(2) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition VII.D.3.c(2).

(3) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition VII.E.2 is conducted.

(4) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain a continuous emission monitoring system for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Distillate Hydrotreater Stripper Reboiler. The CO continuous emission monitoring system required by Conditions VII.D.3.a may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) The continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition VII.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) The continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50

percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For the continuous emission monitoring system required by Condition VII.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval the site-specific monitoring plan required by Condition VII.D.5.b. The Permittee shall submit the site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition VII.D.5.c. [40 CFR 63.7505(d)(1)]

(2) The site-specific monitoring plan required by Condition VII.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heater such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device); [40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. For the continuous emission monitoring system required by Condition VII.D.5.a, the Permittee shall conduct a performance evaluation of the continuous emission monitoring system required by Condition VII.D.5.a in accordance with the site-specific monitoring plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Distillate Hydrotreater Stripper Reboiler, the Permittee shall demonstrate initial compliance with the work practice standard in Condition VII.B.6.a no later than 180 days after startup. The initial compliance demonstration is the performance evaluation required by Condition VII.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Stripper Reboiler, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions VII.D.6 and VII.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests, compliance demonstrations, and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

f. For the Distillate Hydrotreater Stripper Reboiler, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(3) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(5) Records of all monitoring data and calculated averages for CO to show continuous compliance with the work practice standard in Condition VII.B.6.a.

[40 CFR 63.7555(c)]

(6) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(7) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Conditions VII.B.6.a and VII.B.6.b. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Conditions VII.D.5.d and VII.E.3.a, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions VII.D.6.c(1) through VII.D.6.c(5).

[40 CFR 63.7515(g), 40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data and the maximum CO emission levels recorded during the performance test to show that the work practice standards in Conditions VII.B.6.a and VII.B.6.b have been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standards in Conditions VII.B.6.a and VII.B.6.b were not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standards were not met. These instances are deviations from the work practice standards. These deviations must be reported according to the requirements in Conditions VII.D.7.a through VII.D.7.c. [40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions VII.D.7.b(2)(a) through VII.D.7.b(2)(g).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition VII.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standards in Conditions VII.B.6.a and VII.B.6.b, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(g) If there were no periods during which the continuous emission monitoring system required by Condition VII.D.5.a was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition VII.B.6.b, the compliance report shall contain the information required by Conditions VII.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the Distillate Hydrotreater Charge Heater during the reporting period.

[40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7550(d)(3)]

(4) For each deviation from the work practice standard in Condition VII.B.6.a, the compliance report shall contain the information required by Conditions VII.D.7.b(4)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition VII.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan. [40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions VII.D.5 or VII.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition VII.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable information required by Conditions VII.D.7.b(2)(a) through VII.D.7.b(2)(g).

[40 CFR 63.7515(g)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions VII.E.2 through VII.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition VII.E.2.b, the Permittee shall determine compliance with Condition VII.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition VII.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition VII.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing

low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures

For the Distillate Hydrotreater Charge Heater, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition VII.B.6.b in accordance with Conditions VII.E.3.a through VII.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition VII.B.6.b no later than 180 days after startup. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition VII.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition VII.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least one hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Distillate Hydrotreater Charge Heater and the Distillate Hydrotreater Splitter Reboiler. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

[A.A.C. R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

VIII. BUTANE CONVERSION UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Butane Conversion Unit Dehydrogenation Reactor Charge Heater (B-15310)	Natural gas or RFG-fired, 311 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-19
Butane Conversion Unit Dehydrogenation Reactor Interheater (B-15320)	Natural gas or RFG-fired, 328 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-19
Butane Conversion Unit Isostripper Reboiler (B-15110)	Natural gas or RFG-fired, 222 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-20
Catalyst Regenerator (V-15340)	Regeneration of catalyst using perchloroethylene	Caustic wet scrubber	EP-22
Isostripper Column (V-15100)	Distillation column	Combust vent stream in RFG combustion devices	Not applicable
Stabilizer Column (V-15500)	Distillation column	Combust vent stream in RFG combustion devices	Not applicable
Butamer Reactor (V-15200)	Reactor process	Combust vent stream in RFG combustion devices	Not applicable
Dehydrogenation Reactor (V-15300)	Reactor process	Combust vent stream in RFG combustion devices	Not applicable
Catalytic Condensation Reactor (V-15400)	Reactor process	Combust vent stream in RFG combustion devices	Not applicable
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Butane Conversion Unit Dehydrogenation Reactor Charge Heater to exceed 311 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to the Butane Conversion Unit Dehydrogenation Reactor Interheater to exceed 328 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

d. The Permittee shall not cause or allow the heat input to the Butane Conversion Unit Isostripper Reboiler to exceed 222 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Emission Standards for RFG Combustion Devices

a. Sulfur Dioxide Emission Standards

(1) The Permittee shall not cause or allow to be combusted in the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

(2) The Permittee shall not cause or allow to be combusted in the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

b. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

c. Nitrogen Oxides Emission Standard

(1) Initial NO_X limits

For the first 24 months of operation, starting on the date of initial startup of each affected heater, the Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any gases which contain NO_X in excess of 0.0125 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average. The limits imposed under this Condition shall be referred to herein as the "initial NO_X limits."

[A.A.C. R18-2-406(A)(4)]

(2) Revised NO_X limits

After the first 24 months of operation, the Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any gases which contain NO_X in excess of the emission rate limit determined in accordance with Conditions VIII.B.2.c(2)(a) through VIII.B.2.c(2)(d). The limits established under this Condition shall be referred to herein as the "revised NO_X limits."

[A.A.C. R18-2-406(A)(4)]

(a) The revised NO_X limits shall be expressed in units of lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

(b) In lieu of establishing a revised NO_X limit for an affected heater pursuant to Conditions VIII.B.2.c(2)(c) through VIII.B.2.c(2)(d), the Permittee may accept a revised NO_X limit of 0.006 lb per MMBtu heat input. If the Permittee elects this compliance option for an affected heater, no demonstration study is required for that heater, and the Permittee shall demonstrate compliance with the revised

NO_X limit beginning 24 months after the date of initial startup of that heater.

[A.A.C. R18-2-406(A)(4)]

(c) Except as provided by Condition VIII.B.2.c(2)(b), the Permittee shall conduct an SCR performance demonstration study for each affected heater and shall submit to the Director a report documenting the results of such study. The report shall include the revised NO_X limit proposed by the Permittee.

[A.A.C. R18-2-406(A)(4)]

1) Each SCR performance demonstration study shall be submitted to the Director within 21 months after the date of initial startup of the affected heater.

[A.A.C. R18-2-406(A)(4)]

2) Each SCR performance demonstration study report submitted in accordance with Condition VIII.B.2.c(2)(c)(1) shall be considered to be an application for a significant permit revision pursuant to A.A.C. R18-2-320 and shall conform to the requirements for permit applications established in A.A.C. R18-2-304.

[A.A.C. R18-2-406(A)(4)]

3) For any heater for which the Permittee fails to submit an SCR performance demonstration study in accordance with Condition VIII.B.2.c(2)(c)(1), the Permittee shall be deemed to have accepted a revised NO_X limit pursuant to Condition VIII.B.2.c(2)(b).

[A.A.C. R18-2-406(A)(4)]

4) The revised NO_X limit proposed in the study report submitted pursuant to Condition VIII.B.2.c(2)(c)(1) shall represent the limit at which continuous compliance can be reasonably anticipated, based upon a statistical analysis of data collected by the NO_X and ammonia continuous emissions monitoring system required by Condition VIII.D.3.a. Data collected during the first sixty days of heater operation and during periods of startup, shutdown, malfunction, or noncompliance shall not be considered this analysis. The statistical analysis procedure used shall yield a one-sided (upper) tolerance limit, with 99 percent confidence that 99 percent of the valid data will indicate compliance during periods of normal operation.

[A.A.C. R18-2-406(A)(4)]

5) For each affected heater for which the Permittee conducts an SCR performance demonstration study pursuant to Condition VIII.B.2.c(2)(c), the Permittee shall demonstrate compliance with revised NO_X limit proposed in the study report submitted pursuant to Condition VIII.B.2.c(2)(c)(1) beginning 24 months after the date of initial startup of the heater. No revision to the permit shall be required before this applicable requirement takes effect.

[A.A.C. R18-2-406(A)(4)]

(d) For each affected heater for which the Permittee submits an SCR performance demonstration study report pursuant to Condition VIII.B.2.c(2)(c)(1), the Director will establish a revised NO_X limit based on the results of the SCR performance demonstration study.

[A.A.C. R18-2-406(A)(4)]

1) The revised NO_X limit will be incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day U.S. EPA review period per A.A.C. R18-2-320.D.

[A.A.C. R18-2-406(A)(4)]

2) If the Director approves the NO_X limit proposed by the Permittee in the study report submitted pursuant to Condition VIII.B.2.c(2)(c)(1), the revised NO_X limit will be equal to the proposed NO_X limit. If the Director disapproves the proposed NO_X limit, the revised NO_X limit incorporated into the permit pursuant to Condition VIII.B.2.c(2)(d)(1) may be different from the proposed NO_X limit.

[A.A.C. R18-2-406(A)(4)]

d. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

e. Ammonia Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane

Conversion Unit Isostripper Reboiler any gases which contain ammonia in excess of 5.0 ppmvd, corrected to 0.0 percent oxygen, based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

f. Organic HAP Emission Standard

(1) Except as provided in Condition VIII.B.2.f(2), the Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, or the Butane Conversion Unit Isostripper Reboiler any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

(2) The carbon monoxide work practice standard in Condition VIII.B.2.f(1) shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

(3) The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

(4) The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

(5) During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan. [40 CFR 63.7540(c)]

(6) Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

3. NSPS Emission Standards for Distillation Units

a. For each vent stream from an affected distillation unit, on and after the date on which the initial performance test required by Condition VIII.E.4 is

completed, but not later than 60 days after achieving the maximum production rate at which the distillation unit will be operated, or 180 days after the initial start-up, whichever date comes first, the Permittee shall control emissions as follows:

[A.A.C. R18-2-901(65) {40 CFR 60.662(a)}]

(1) The Permittee shall reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

(2) For each process heater used to comply with Condition VIII.B.3.a(1), the vent stream shall be introduced into the flame zone of the process heater.

b. For the purpose of Condition VIII.B.3.a, the affected distillation units shall comprise the Isostripper Column, the Stabilizer Column, and the associated recovery systems.

[A.A.C. R18-2-331(A)(3)(e), R18-2-901(65) {40 CFR 60.662(a)}]

4. NSPS Emission Standards for Reactor Processes

a. For each vent stream from an affected reactor process, on and after the date on which the initial performance test required by Condition VIII.E.3.a is completed, but not later than 60 days after achieving the maximum production rate at which the reactor process will be operated, or 180 days after the initial start-up, whichever date comes first, the Permittee shall control emissions as follows:

[A.A.C. R18-2-901(65) {40 CFR 60.702(a)}]

(1) The Permittee shall reduce emissions of TOC (less methane and ethane) by 98 weight-percent, or to a TOC (less methane and ethane) concentration of 20 ppmv, on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

(2) For each process heater used to comply with Condition VIII.B.4.a(1), the vent stream shall be introduced with the primary fuel into the flame zone of the process heater.

b. For the purpose of Condition VIII.B.4.a, the affected reactor processes shall comprise the Butamer Reactor, the Dehydrogenation Reactor, the Catalytic Condensation Reactor, and the associated recovery systems.

[A.A.C. R18-2-901(65) {40 CFR 60.702(a)}]

5. Emission Standards for the Catalyst Regenerator

a. Nitrogen Oxides Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Catalyst Regenerator any gases which contain NO_X in excess of 0.82 lb/hr, based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Catalyst Regenerator any gases which contain CO in excess of 0.50 lb/hr, based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

c. Visible Emissions Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Butane Conversion Unit Catalyst Regenerator any air contaminant, other than uncombined water, in excess of 5 percent opacity, based on a six-minute average.

[A.A.C. R18-2-406(A)(4) and R18-2-702(B)]

6. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. Butane Conversion Unit Dehydrogenation Reactor Charge Heater and Butane Conversion Unit Interheater

At all times when either the Butane Conversion Unit Dehydrogenation Reactor Charge Heater or the Butane Conversion Unit Dehydrogenation Reactor Interheater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. Butane Conversion Unit Isostripper Reboiler

At all times when the Butane Conversion Unit Isostripper Reboiler is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

3. Catalyst Regenerator

At all times when the Catalyst Regenerator is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the caustic wet scrubber in a manner consistent with good air pollution control practice for minimizing HAP emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and Butane Conversion Unit Isostripper Reboiler in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition VIII.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate continuous monitoring systems for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stacks of the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and Butane Conversion Unit Isostripper Reboiler. Each monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition VIII.B.2.a(1) shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition VIII.B.2.a(2) shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for these SO_2 monitors under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition VIII.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition VIII.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition VIII.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring systems required by Condition VIII.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit

Dehydrogenation Reactor Interheater, and Butane Conversion Unit Isostripper Reboiler in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, O_2, and Ammonia

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, O_2, and ammonia in gases emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and the Butane Conversion Unit Isostripper Reboiler.

b. Performance Specifications

(1) The NO_X continuous emission monitoring systems shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring systems shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring systems shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

(4) The ammonia continuous emission monitoring systems shall be maintained and operated in accordance with performance specifications to be established in a monitoring plan approved by the Director pursuant to Condition VIII.D.4.b.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition VIII.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26 $\times 10^{-8}$ to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall

be performed in accordance with the monitoring plan approved by the Director pursuant to Condition I.D.4.b.

d. Compliance with the NO_X, CO, and ammonia emission limitations in Conditions VIII.B.2.d through VIII.B.2.f, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition VIII.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition VIII.D.3.a exceeds the emission standard in Condition VIII.B.2.d.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition VIII.D.3.a exceeds the emission standard in Condition VIII.B.2.e.

(3) All 3-hour periods for which the ammonia emission rate to the atmosphere as determined in accordance with Condition VIII.D.3.a exceeds the emission standard in Condition VIII.B.2.f.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions VIII.D.2.a and VIII.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include proposed performance specifications for the ammonia continuous emission monitoring system substantially equivalent to those set forth in Performance Specification 5 in appendix B to 40 CFR part 60.

(2) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(3) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition VIII.D.3.c(2).

(4) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition VIII.E.2 is conducted.

(5) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain continuous emission monitoring systems for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and the Butane Conversion Unit Isostripper Reboiler. The CO continuous emission monitoring systems

required by Conditions VIII.D.3.a and VIII.D.3.b may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) Each continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition VIII.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) Each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are

not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For each continuous emission monitoring system required by Condition VIII.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval each site-specific monitoring plan required by Condition VIII.D.5.b. The Permittee shall submit each site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition VIII.D.5.c.

[40 CFR 63.7505(d)(1)]

(2) Each site-specific monitoring plan required by Condition VIII.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heater such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. The Permittee shall conduct a performance evaluation of each continuous emission monitoring system in accordance with the site-specific monitoring

plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and the Butane Conversion Unit Isostripper Reboiler, the Permittee shall demonstrate initial compliance with the work practice standard in Condition VIII.B.2.f(1) no later than 180 days after startup of each heater. The initial compliance demonstration is the performance evaluation required by Condition VIII.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For each continuous emission monitoring system required by Condition VIII.D.5.a, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions VIII.D.6 and VIII.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of compliance demonstrations and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(5) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(6) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(7) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(8) Records of all monitoring data and calculated averages for CO to show continuous compliance with the work practice standard in Condition VIII.B.2.f(1).

[40 CFR 63.7555(c)]

(9) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(10) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition VIII.B.2.f(1). The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Condition VIII.D.5.d, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions VIII.D.6.c(1) through VIII.D.6.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data to show that the work practice standard in Condition VIII.B.2.f(1) has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition VIII.B.2.f(1) was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions VIII.D.7.a through VIII.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions VIII.D.7.b(2)(a) through VIII.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(e) If there are no deviations from the work practice standard in Condition VIII.B.2.f(1), a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(f) If there were no periods during which the continuous emission monitoring system was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition VIII.B.2.f(1), the compliance report shall contain the information required by Conditions VIII.D.7.b(3)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition VIII.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup,

shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation. [40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions VIII.D.5 or VIII.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

8. Monitoring for Distillation Units and Reactor Processes

a. For each process heater used to comply with Conditions VIII.B.3.a or VIII.B.4.a, the Permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)(1)}, R18-2-901(69) {40 CFR 60.703(c)}]

(1) A flow indicator that provides a record of vent stream flow to the process heater at least once every hour for each affected distillation unit. The flow indicator shall be installed in the vent stream from each distillation unit within an affected facility at a point closest to the inlet of each process heater and before being joined with any other vent stream.

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)(1)}]

(2) A flow indicator that provides a record of vent stream flow diverted from being routed to the process heater at least once every 15 minutes for each affected reactor process, except as provided in Condition VIII.D.8.a(2)(b).

[A.A.C. R18-2-331(A)(3)(c), R18-2-901(69) {40 CFR 60.703(c)(1)}]

(a) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream from being routed to the process heater, resulting in its emission to the atmosphere.

[A.A.C. R18-2-331(A)(3)(c), R18-2-901(69) {40 CFR 60.703(c)(1)(i)}]

(b) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required under Condition VIII.D.8.a(2). A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

[A.A.C. R18-2-901(69) {40 CFR 60.703(c)(1)(ii)}]

(3) A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 ºC, whichever is greater, for process heaters of less than 44 MW (150 MMBtu/hr) heat input design capacity.

[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(c)(2)}]

b. For each process heater used to comply with Condition VIII.B.3.a, the Permittee shall monitor and record the periods of operation of the process

heater if the design heat input capacity of the process heater is 44 MW (150 MMBtu/hr) or greater. The records must be readily available for inspection.
[A.A.C. R18-2-331(A)(3)(c), A.A.C. R18-2-901(65) {40 CFR 60.663(d)}]

9. Reporting and Recordkeeping for Distillation Units and Reactor Processes

a. For each performance test of a process heater used to comply with Condition VIII.B.3.a, as required by Condition VIII.E.4, the Permittee shall keep an up-to-date, readily accessible record of the following data measured during the performance test, and also include the following data in the report of the initial performance test required under 40 CFR 60.8.
[A.A.C. R18-2-901(65) {40 CFR 60.665(b)}]

(1) A description of the location at which the vent stream is introduced into the process heater, and
[A.A.C. R18-2-901(65) {40 CFR 60.665(b)(2)(i)}, R18-2-901(69) {40 CFR 60.705(b)(2)(i)}]

(2) The average combustion temperature of the process heater with a design heat input capacity of less than 44 MW (150 MMBtu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing.
[A.A.C. R18-2-901(65) {40 CFR 60.665(b)(2)(ii)}]

b. For each process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater used to comply with Condition VIII.B.3.a(1), and for each process heater used to comply with Condition VIII.B.4.a(1), a report containing performance test data need not be submitted, but a report containing the information in Condition VIII.D.9.a(1) is required.
[A.A.C. R18-2-901(65) {40 CFR 60.665(b)}, R18-2-901(69) {40 CFR 60.705(b)}]

c. The data specified in Condition VIII.D.9.a shall be submitted in the reports of all subsequently required performance tests where either the emission control efficiency of a control device or the outlet concentration of TOC is determined. [A.A.C. R18-2-901(65) {40 CFR 60.665(b)}]

d. Records of Flow Indication

(1) The Permittee shall keep up to date, readily accessible continuous records of the flow indication required to be monitored under Condition VIII.D.8.a(1), as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.
[A.A.C. R18-2-901(65) {40 CFR 60.665(d)}]

(2) Except as provided in Condition VIII.D.9.d(3), the Permittee shall keep up to date, readily accessible continuous records of the flow indication required to be monitored under Condition VIII.D.8.a(2)(a), as well as up-to-date, readily accessible records of all periods and the duration of such periods when the vent stream is diverted from the control device.

[A.A.C. R18-2-901(69) {40 CFR 60.705(d)(1)}]

(3) Where a seal mechanism is used to comply with Condition VIII.D.8.a(2)(b), a record of continuous flow is not required. In such cases, the Permittee shall keep up-to-date, readily accessible records of all monthly visual inspections of the seals as well as readily accessible records of all periods and the duration when the seal mechanism is broken, the bypass line valve position has changed, the serial number of the broken car-seal has changed, or when the key for a lock-and-key type configuration has been checked out.

[A.A.C. R18-2-901(69) {40 CFR 60.705(d)(2)}]

e. The Permittee shall keep up-to-date, readily accessible continuous records of the temperature monitoring conducted under Condition VIII.D.8.a(3).

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)}]

f. For each process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater used to comply with Condition VIII.B.3.a, the Permittee shall keep an up-to-date, readily accessible record of all periods of operation of the process heater. (Examples of such records could include records of fuel use or monitoring data collected pursuant to other regulatory requirements.)

[A.A.C. R18-2-901(65) {40 CFR 60.665(e)}]

g. The Permittee shall keep up-to-date, readily accessible records of the following parameter boundary exceedances:

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)}, R18-2-901(69) {40 CFR 60.705(c)}]

(1) For process heaters used to comply with Conditions VIII.B.3.a or VIII.B.4.a, all occurrences of a change in the location at which the vent stream is introduced into the flame zone as required under Conditions VIII.B.3.a(2) and VIII.B.4.a(2).

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)(4)}, R18-2-901(69) {40 CFR 60.705(c)(4)}]

(2) For process heaters having a design heat input capacity of less than 44 MW (150 MMBtu/hr) and used to comply with Condition VIII.B.3.a, all 3-hour periods of operation during which the average combustion temperature was more than 28 ºC (50 ºF) below the average combustion temperature during the most recent performance test at which compliance with Condition VIII.B.3.a(1) was determined.

[A.A.C. R18-2-901(65) {40 CFR 60.665(c)(3)}]

h. At the time of compliance certifications, the Permittee shall submit to the Director semiannual reports of the following recorded information. The initial report shall be submitted within 6 months after the initial start-up date.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)}, R18-2-901(69) {40 CFR 60.705(l)}]

(1) Parameter boundary exceedances recorded under Condition VIII.D.9.g.

[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(1)}, R18-2-901(69) {40 CFR 60.705(l)(1)}]

(2) All periods recorded under Condition VIII.D.9.d(1) when the vent stream is diverted from the control device or has no flow rate.
[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(2)}]

(3) All periods recorded under Condition VIII.D.9.d(2) when the vent stream is diverted from the control device.
[R18-2-901(69) {40 CFR 60.705(l)(2)}]

(4) All periods recorded under Condition VIII.D.9.f when the process heater was not operating.
[A.A.C. R18-2-901(65) {40 CFR 60.665(l)(3)}]

(5) All periods recorded under Condition VIII.D.9.d(3) in which the seal mechanism is broken or the by-pass line valve position has changed. A record of the serial number of the car-seal or a record to show that the key to unlock the bypass line valve was checked out must be maintained to demonstrate the period, the duration, and frequency in which the bypass line was operated.
[R18-2-901(69) {40 CFR 60.705(l)(7)}]

i. With respect to subparts NNN and RRR of 40 CFR part 60, the Permittee is exempt from the quarterly reporting requirements contained in § 60.7(c) of subpart A of 40 CFR part 60.
[A.A.C. R18-2-901(65) {40 CFR 60.665(k)}, R18-2-901(69) {40 CFR 60.705(k)}]

j. For each affected reactor process subject to Condition VIII.B.4.a, the Permittee shall maintain on file a schematic diagram of the affected vent streams, collection system(s), fuel systems, control devices, and bypass systems. This schematic diagram must be retained for the life of the system.
[A.A.C. R18-2-901(69) {40 CFR 60.705(s)}]

10. Alternative Monitoring Plan

As an alternative to the monitoring, recordkeeping, and reporting provisions of Conditions VIII.D.8 and VIII.D.9, the Permittee may comply with an alternative monitoring plan that has been approved by the Administrator pursuant to 40 CFR 60.13(i).
[A.A.C. R18-2-901(1) {40 CFR 60.13(i)}]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions VIII.E.2 through VIII.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.
[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emissions from Process Heaters

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) for process heaters as follows:

a. Except as provided by Condition VIII.E.2.b, the Permittee shall determine compliance with Condition VIII.B.2.a(1) as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition VIII.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition VIII.B.2.a(1) as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal

sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. Particulate Matter Performance Tests for Process Heaters

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stacks of the Butane Conversion Unit Dehydrogenation Reactor Charge Heater, the Butane Conversion Unit Dehydrogenation Reactor Interheater, and the Butane Conversion Unit Isostripper Reboiler. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

4. NSPS Test Methods and Procedures for Distillation Columns and Reactor Processes

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) for distillation columns and reactor processes as follows:

a. When a process heater with a design heat input capacity of 44 MW (150 MMBtu/hour) or greater is used to seek to comply with Condition VIII.B.3, the requirement for an initial performance test is waived, in accordance with 40 CFR 60.8(b). However, the Director reserves the option to require testing at such other times as may be required, as provided for in section 114 of the Clean Air Act. [A.A.C. R18-2-901(65) {40 CFR 60.664(c)}]

b. When a process heater is used to seek to comply with Condition VIII.B.4, the requirement for an initial performance test is waived, in accordance with 40 CFR 60.8(b). However, the Director reserves the option to require testing at such other times as may be required, as provided for in section 114 of the Clean Air Act.

[A.A.C. R18-2-901(69) {40 CFR 60.704(b)(5)}]

c. For the purpose of performance tests, required under 40 CFR 60.8, for demonstrating compliance with Condition VIII.B.3 and VIII.B.4, all affected facilities shall be run at full operating conditions and flow rates during any performance test.

[A.A.C. R18-2-901(65) {40 CFR 60.664(a)}, R18-2-901(69) {40 CFR 60.704(a)}]

d. Except as provided under 40 CFR 60.8(b), the following test methods in appendix A to 40 CFR part 60 shall be used as reference methods to

determine compliance with the emission limit or percent reduction efficiency specified under Condition VIII.B.3.a(1) and VIII.B.4.a(1).
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)}, R18-2-901(69) {40 CFR 60.704(b)}]

(1) Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determination of vent stream molar composition or TOC (less methane and ethane) reduction efficiency shall be prior to the inlet of the control device and after the recovery system.
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(1)}, R18-2-901(69) {40 CFR 60.704(b)(1)}]

(2) Method 2, 2A, 2C, or 2D, as appropriate, for determination of the gas volumetric flow rates.
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(2)}, R18-2-901(69) {40 CFR 60.704(b)(2)}]

(3) The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration ($\%O_{2d}$) for the purposes of determining compliance with the 20 ppmv limit. The sampling site shall be the same as that of the TOC samples, and the samples shall be taken during the same time that the TOC samples are taken. The TOC concentration corrected to 3 percent O_2 (C_C) shall be computed using the following equation:
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(3)}, R18-2-901(69) {40 CFR 60.704(b)(3)}]

$$C_C = C_{TOC} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C_C = Concentration of TOC corrected to 3 percent O_2, dry basis, ppm by volume.
C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.
$\%O_{2d}$ = Concentration of O_2, dry basis, percent by volume.

(4) Method 18 to determine the concentration of TOC in the control device outlet and the concentration of TOC in the inlet when the reduction efficiency of the control device is to be determined.
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)}, R18-2-901(69) {40 CFR 60.704(b)(4)}]

(a) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used then the samples shall be taken at 15-minute intervals.
[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(i)}, R18-2-901(69) {40 CFR 60.704(b)(4)(i)}]

(b) The emission reduction (R) of TOC (minus methane and ethane) shall be determined using the following equation:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(ii)}, R18-2-901(69) {40 CFR 60.704(b)(4)(ii)}]

$$R = \frac{E_i - E_o}{E_i} \times 100$$

where:

R =	Emission reduction, percent by weight.
E_i =	Mass rate of TOC entering the control device, kg/hr (lb/hr).
E_o =	Mass rate of TOC discharged to the atmosphere, kg/hr (lb/hr).

(c) The mass rates of TOC (E_i, E_o) shall be computed using the following equations:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(iii)}, R18-2-901(69) {40 CFR 60.704(b)(4)(iii)}]

$$E_i = K_2 \left(\sum_{j=1}^{n} C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{j=1}^{n} C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij}, C_{oj} =	Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppm by volume.
M_{ij}, M_{oj} =	Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).
Q_i, Q_o =	Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/min).
K_2 =	2.494×10^{-6} (1/ppm) (g-mole/scm) (kg/g) (min/hr) (metric units), where standard temperature for (g-mole/scm) is 20 ºC.
=	1.557×10^{-7} (1/ppm) (lb-mole/scf) (min/hr) (English units), where standard temperature for (lb-mole/scf) is 68 ºF.

(d) The TOC concentration (C_{TOC}) is the sum of the individual components and shall be computed for each run using the following equation:

[A.A.C. R18-2-901(65) {40 CFR 60.664(b)(4)(iv)}, R18-2-901(69) {40 CFR 60.704(b)(4)(iv)}]

$$C_{TOC} = \sum_{j=1}^{n} C_j$$

where:

C_{TOC} = Concentration of TOC (minus methane and ethane), dry basis, ppm by volume.
C_j = Concentration of sample components "j," dry basis, ppm by volume.
n = Number of components in the sample.

5. NO_X and CO Performance Tests for Catalyst Regenerator

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the NO_X and CO emission rates from the stack of the Butane Conversion Unit Catalyst Regenerator. These tests shall be performed using EPA Reference Methods 7 or 7E for NO_X emissions and EPA Reference Methods 10 or 10B for CO emissions.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(1), R18-2-901(14), R18-2-901(65), R18-2-901(69), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

IX. BENZENE REDUCTION UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

X. DELAYED COKING UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Delayed Coking Unit Charge Heater No. 1 (B-14110A)	Natural gas or RFG-fired, 99.5 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-10
Delayed Coking Unit Charge Heater No. 2 (B-14110B)	Natural gas or RFG-fired, 99.5 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-10
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	n/a

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Delayed Coking Unit Charge Heater Nos. 1 and 2 any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to either of the Delayed Coking Unit Charge Heater Nos. 1 and 2 to exceed 99.5 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Delayed Coking Unit Charge Heater Nos. 1 and 2 any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Delayed Coking Unit Charge Heater Nos. 1 and 2 any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Delayed Coking Unit Charge Heater Nos. 1 or 2 any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Delayed Coking Unit Charge Heater Nos. 1 or 2 any gases which contain NO_X in excess of 0.030 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Delayed Coking Unit Charge Heater Nos. 1 or 2 any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Organic HAP Emission Standard

a. Except as provided in Condition X.B.6.b, the Permittee shall not cause or allow to be emitted to the atmosphere from the Delayed Coking Unit Charge Heater Nos. 1 or 2 any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

b. The carbon monoxide work practice standard in Condition X.B.6.a shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

d. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

e. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

f. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

At all times when the Delayed Coking Unit Charge Heater Nos. 1 or 2 is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Delayed Coking Unit Charge Heater Nos. 1 and 2 in accordance with the following:

a. For each hour of operation of a particular heater, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each heater shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition X.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Delayed Coking Unit Charge Heater Nos. 1 and 2. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition X.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition X.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition X.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition X.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition X.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition X.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Delayed Coking Unit Charge Heater Nos. 1 and 2 in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, and O_2

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Delayed Coking Unit Charge Heater Nos. 1 and 2.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring system shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition X.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26×10^{-8} to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition I.D.4.b.

d. Compliance with the NO_X and CO emission limitations in Conditions X.B.5 and X.B.6, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition X.D.3.a.

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Specific Condition X.D.3.a exceeds the emission standard in Specific Condition X.B.5.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Specific Condition X.D.3.a exceeds the emission standard in Specific Condition X.B.6.

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions X.D.2.a and X.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(2) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition X.D.3.c(2).

(3) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition X.E.2 is conducted.

(4) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions X.D.6 and X.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests and compliance demonstrations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(5) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition X.B.6.a. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For the initial compliance demonstration required by Condition X.E.3.a, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the performance test according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions X.D.6.c(1) through X.D.6.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the maximum carbon monoxide emission levels recorded during the performance test to show that the work practice standard in Condition X.B.6.a has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition X.B.6.a was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions X.D.7.a through X.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions X.D.7.b(2)(a) through X.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition X.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standard in Condition X.B.6.a, a statement that there were no deviations from the work practice standard during the reporting period.

[40 CFR 63.7550(c)(10)]

(3) For each deviation from the work practice standard in Condition X.B.6.a, the compliance report shall contain the information required by Conditions X.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the affected heater during the reporting period.

[40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

[40 CFR 63.7550(d)(3)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Condition X.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition X.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable information required by Conditions X.D.7.b(2)(a) through X.D.7.b(2)(f).

[40 CFR 63.7515(g)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions X.E.2 through X.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition X.E.2.b, the Permittee shall determine compliance with Condition X.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition X.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition X.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures

For the Delayed Coking Unit Charge Heater Nos. 1 and 2, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition X.B.6.a in accordance with Conditions X.E.3.a through X.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition X.B.6.a no later than 180 days after startup. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition X.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition X.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least one hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Delayed Coking Unit Charge Heater Nos. 1 and 2. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

XI. PETROLEUM COKE STORAGE, HANDLING, AND LOADING

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Coke Pit (n/a)	Open area used to receive and drain moist coke from Delayed Coking Unit coke drums	Four-wall enclosure; coke moisture content greater than or equal to 12% by weight	Not applicable
Coke Pad (n/a)	Open area used for intermediate storage of coke before crushing	Four-wall enclosure; coke moisture content greater than or equal to 12% by weight	Not applicable
Coke Crusher (H-14604)	Used for crushing coke; located within the Coke Pad enclosure	Partial enclosure; coke moisture content greater than or equal to 12% by weight	Not applicable
Coke Conveyor (H-14121)	Belt-type conveyor, used to transfer coke from crusher to silo	Total enclosure; coke moisture content greater than or equal to 12% by weight	Not applicable
Coke Silo (H-14607)	Used for storage of crushed coke prior to loading	Fabric filter baghouse	EP-14
Coke Rail Car Loading (n/a)	Gravity-type loading operation utilizing a chute	Total enclosure; coke moisture content greater than or equal to 12% by weight	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

The Permittee shall not cause or allow on-site storage, handling, conveying, loading, or transport of coke in any manner except as follows: [A.A.C. R18-2-406(A)(4)]

a. Coke may be stored and handled within the Coke Pit and Coke Pad, subject to the following restrictions.

[A.A.C. R18-2-406(A)(4)]

(1) The combined surface area of the Coke Pit and Coke Pad shall be no greater than 48,000 square feet.

[A.A.C. R18-2-406(A)(4)]

(2) The Coke Pit and Coke Pad shall be designed, constructed, operated, and maintained within a completely walled enclosure such that the coke storage and handling operations are protected from wind blowing in any direction.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(3) All coke storage and handling operations within the Coke Pit and Coke Pad shall be conducted at a level at least five feet below the lowest point on the top of the walled enclosure.

[A.A.C. R18-2-406(A)(4)]

(4) The Permittee shall install, maintain, and operate water spray systems, equivalent measures, or a combination thereof sufficient to maintain the moisture content of the coke at a level of at least 12 percent by weight at all times.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(5) Coke storage and handling operations shall be conducted such that no visible emissions occur across the refinery's property boundary.

[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

b. Coke may be transferred within the Coke Pit and Coke Pad, subject to the following restrictions.

[A.A.C. R18-2-406(A)(4)]

(1) Coke transfer operations within the Coke Pit and Coke Pad, including transfer from the Delayed Coking Unit into the Coke Pit and transfer from the Coke Pad storage pile to the Coke Crusher, shall be conducted such that all coke handling occurs at a level at least five feet below the lowest point on the top of the walled enclosure.

[A.A.C. R18-2-406(A)(4)]

(2) The Permittee shall install, maintain, and operate water spray systems, equivalent measures, or a combination thereof sufficient to maintain the moisture content of the coke at a level of at least 12 percent by weight at all times.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(3) Coke transfer operations within the Coke Pit and Coke Pad shall be conducted such that no visible emissions occur across the refinery's property boundary.

[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

c. Coke may be handled and crushed by the Coke Crusher, subject to the following restrictions.

[A.A.C. R18-2-406(A)(4)]

(1) The Coke Crusher shall be located within the Coke Pad enclosure.
[A.A.C. R18-2-406(A)(4)]

(2) The Coke Crusher shall be installed, maintained, and operated with a partial enclosure such that it is surrounded on all sides and on top.
[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(3) The Coke Crusher shall be installed, maintained and operated with no visible emissions.
[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

(4) The Permittee shall install, maintain, and operate water spray systems, equivalent measures, or a combination thereof sufficient to maintain the moisture content of the coke at a level of at least 12 percent by weight at all times.
[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

d. Coke may be conveyed from within the Coke Pad enclosure to an area outside the Coke Pad enclosure, subject to the following restrictions.
[A.A.C. R18-2-406(A)(4)]

(1) Coke transfer shall occur only using a fully enclosed Coke Conveyor. Transfer points within the Coke Conveyor shall be fully enclosed.
[A.A.C. R18-2-406(A)(4)]

(2) The Coke Conveyor shall be equipped with only the following two transfer points:
[A.A.C. R18-2-406(A)(4)]

(a) Transfer from the Coke Crusher to the Coke Conveyor.

(b) Transfer from the Coke Conveyor to the Coke Silo.

(3) The Permittee shall install, maintain, and operate water spray systems, equivalent measures, or a combination thereof sufficient to maintain the moisture content of the coke at a level of at least 12 percent by weight at all times and at all locations within the Coke Conveyor.
[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(4) The Coke Conveyor shall be installed, maintained and operated with no visible emissions.
[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

e. Coke may be stored within the Coke Silo, subject to the following restrictions.
[A.A.C. R18-2-406(A)(4)]

(1) The Coke Silo shall be fully enclosed.
[A.A.C. R18-2-406(A)(4)]

(2) The Coke Silo shall be equipped with a fabric filter baghouse, such that all emissions from the Coke Silo occur through the vent of the Coke Silo Baghouse.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(3) The Coke Silo and Coke Silo Baghouse shall be installed, maintained and operated with no visible emissions.

[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

f. Coke may be transferred from the Coke Silo, subject to the following restrictions.

[A.A.C. R18-2-406(A)(4)]

(1) Coke shall not be transferred from the Coke Silo other than by loading into rail cars.

[A.A.C. R18-2-406(A)(4)]

(2) Coke rail car loading operations shall be entirely contained within an enclosure.

[A.A.C. R18-2-406(A)(4)]

(3) The openings in the coke rail car loading enclosure, through which rail cars enter and leave the enclosure, shall be equipped with overlapping flaps or sliding doors.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(4) The flaps or doors through which rail cars enter and leave the rail car loading enclosure shall remain closed, except to allow the rail cars to enter and leave, and shall be closed promptly after each rail car passes through the opening.

[A.A.C. R18-2-406(A)(4)]

(5) Coke transfer into rail cars shall be conducted using a telescoping chute.

[A.A.C. R18-2-406(A)(4)]

(6) The telescoping chute used to load coke into rail cars shall be installed, maintained, and operated such that the height of the coke drop (i.e., from the end of the chute to the top of the pile within the rail car) does not exceed four feet.

[A.A.C. R18-2-406(A)(4)]

(7) The Permittee shall install, maintain, and operate water spray systems, equivalent measures, or a combination thereof sufficient to ensure that coke transferred from the Coke Silo has a moisture content of at least 12 percent by weight at all times.

[A.A.C. R18-2-331(A)(3)(d)-(e), R18-2-406(A)(4)]

(8) Coke rail car loading operations shall be conducted with no visible emissions.

[A.A.C. R18-2-331(A)(3)(f), R18-2-406(A)(4)]

2. Particulate Matter Emission Standards

a. The Permittee shall not cause or allow to be emitted to the atmosphere from the Coke Silo Baghouse any gases which contain particulate matter in excess of 0.005 grains per dry standard cubic foot.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not discharge or cause or allow the discharge of particulate matter emissions into the ambient air from the Coke Silo Baghouse in excess of the allowable hourly emission rate determined as follows:

[A.A.C. R18-2-730(A)(1)]

(1) For the purposes of Condition XI.B.2, all terms shall have the meaning given in A.A.C. R18-2-101 or R18-2-701.

(2) Process Weight Rates Less Than or Equal to 60,000 Pounds Per Hour:

(a) Determination of the allowable hourly emission rates (E) for process weight rates up to 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where:
E = Emissions in pounds per hour, and
P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(a)]

(3) Process Weight Rates Greater Than 60,000 Pounds Per Hour:

(a) Determination of the allowable hourly emission rates (E) for process weight rates in excess of 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

where:
E = Emissions in pounds per hour, and
P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(b)]

C. Air Pollution Control Equipment

At all times when the Coke Silo is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Coke Silo

Baghouse in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. The Permittee shall conduct inspections of the coke storage, handling, and loading operations as follows.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

a. At least once per shift, the Permittee shall determine and record the maximum height of each coke storage pile within the Coke Pit and Coke Pad.

b. At least once per shift, and with an observation period of at least 5 minutes per listed item, the Permittee shall observe the following equipment and operations for visible emissions, using U.S. EPA Reference Method 22.

(1) Coke Pit and Coke Pad

(2) Coke Crusher

(3) Coke Conveyor

(4) Coke Silo Baghouse

(5) Coke Rail Car Loading Enclosure

2. At least once per day, the Permittee shall collect representative coke samples from the following locations:

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

a. Coke Pad

b. Transfer point between Coke Crusher and Coke Conveyor

c. Coke rail car loading chute

3. Each coke sample collected pursuant to Condition XI.D.2 shall be analyzed for moisture content using ASTM Method D-3302, ASTM Method D-4931, or an equivalent method with prior written approval by the Director.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

4. The Permittee shall keep readily accessible records of the following:

[A.A.C. R18-2-306(A)(4), R18-2-406(A)(4)]

a. Each determination of the height of the coke storage pile recorded pursuant to Condition XI.D.1.a.

b. A log of all visible emission observations performed pursuant to Condition XI.D.1.b.

c. The results of each coke sample analysis performed pursuant to Condition XI.D.3.

E. Testing Requirements

Particulate Matter Performance Tests

1. The Permittee shall perform initial and annual performance tests to determine the PM emission rate from the Coke Silo Baghouse.

2. Performance tests required by Condition XI.E.1 shall be performed using EPA Reference Method 5. The sampling time and sample volume for each run shall be at least 60 minutes and 30 dscf.

3. Initial performance tests required by Condition XI.E.1 shall be performed within 60 days after achieving the maximum production rate at which the delayed coking unit will be operated, but not later than 180 days after initial startup of the delayed coking unit.

[A.A.C. R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-730(A).

[A.A.C. R18-2-325]

XII. AMINE REGENERATION UNIT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Lean Amine Tank (T-12200)	Storage vessel: 210,000 gallons working capacity, storing lean amine (DEA) solution	Not applicable	Not applicable
Rich Amine Tank (T-12300)	Storage vessel: 210,000 gallons working capacity, storing rich amine (DEA) solution	Not applicable	Not applicable
Rich Amine Three Phase Separator (V-12100)	Process Vessel	Sulfur Recovery Plant Thermal Oxidizer	Not applicable
Amine Regenerator (V-12110)	Stripper column with steam-heated reboiler	Sulfur Recovery Plant	Not applicable
Equipment Leaks (n/a)	Fugitive VOC, H_2S emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Requirements

a. The Permittee shall ensure that all gases discharged from the Amine Regenerator containing H_2S or VOC shall be routed to the Sulfur Recovery Plant.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

b. The Permittee shall ensure that all gases discharged from the Rich Amine Three Phase Separator are routed to the Sulfur Recovery Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4), R18-2-1101(B)(23) {40 CFR 63.643(a)(2)}]

c. In the event of an emergency acid gas flaring situation, or any upset that results in an exceedance of the Sulfur Recovery Plant emission standards in Conditions XIV.B.2.a or XIV.B.2.b, the Permittee shall ensure that the following measures are taken to ensure that excess SO_2 emissions are minimized:

[A.A.C. R18-2-406(A)(4)]

(1) Rich amine shall be re-routed to the Rich Amine Tank and acid gas flaring shall be ceased within fifteen minutes after the start of the acid gas flaring or other upset that results in excess emissions.

(2) Production at upstream process units shall be curtailed as necessary in order to minimize acid gas flaring and excess emissions from the Sulfur Recovery Plant.

d. The Permittee shall ensure that available rich amine solution storage capacity of at least 210,000 gallons is maintained continuously.

[A.A.C. R18-2-306(A)(2)]

e. The Permittee shall ensure that available lean amine solution storage capacity of at least 210,000 gallons is maintained continuously.

[A.A.C. R18-2-306(A)(2)]

f. The Permittee shall not cause or allow rich amine solution throughput processed in the Amine Regeneration Unit to exceed 210,000 gallons per calendar day.

[A.A.C. R18-2-306(A)(2)]

g. The Permittee shall not cause or allow liquid with a true vapor pressure of 3.4 kPa or greater to be stored in the Rich Amine Tank or the Lean Amine Tank.

[A.A.C. R18-2-306.01(A), R18-2-331(A)(3)(a)]

2. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for RFG Hydrogen Sulfide Concentration

For any RFG combustion device not equipped with a continuous emission monitoring system for SO_2, the Permittee shall demonstrate compliance with the applicable limitation on RFG H_2S concentration as follows:

a. The Permittee shall install, calibrate, maintain, and continuously operate a continuous monitoring system for measuring the H_2S concentration (dry basis) of RFG combusted in the RFG combustion device.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

(1) The span value for this instrument is 425 mg/dscm H_2S.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)(i)}]

(2) RFG combustion devices having a common source of RFG may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the RFG being burned.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)(ii)}]

(3) The performance evaluations for this H_2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 in appendix B to 40 CFR part 60. EPA Reference Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)(iii)}]

b. All averages shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 3-hour average shall be determined as the arithmetic average of three contiguous 1-hour averages.

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. For the purpose of reports under 40 CFR 60.7(c), the following shall be considered periods of excess emissions:

All rolling 3-hour periods during which the average concentration of H_2S as measured by the H_2S continuous monitoring system under Condition XII.C.1.a exceeds the applicable limitation on RFG H_2S concentration.

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)}]

d. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

2. Monitoring for Fuel Sulfur Concentration

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4)]

For any combustion device subject to an applicable limitation on fuel sulfur concentration and not equipped with a continuous emission monitoring system for SO_2, the Permittee shall demonstrate compliance with the applicable limitation on sulfur concentration in accordance with either Condition XII.C.2.a or Condition XII.C.2.b.

a. Continuous Monitoring System

(1) The Permittee shall install, calibrate, maintain, and continuously operate a continuous monitoring system for measuring the sulfur concentration (dry basis) of fuel combusted in the combustion device.

(a) Combustion devices having a common source of fuel may be monitored at only one location, if monitoring at this location accurately represents the concentration of sulfur in the fuel being burned.

(2) The Permittee shall prepare, submit, and implement a monitoring plan for the sulfur continuous monitoring system.

(a) The monitoring plan shall include proposed performance specifications substantially equivalent to those set forth in Performance Specification 5 in appendix B to 40 CFR part 60.

(b) The monitoring plan shall include quality assurance procedures substantially equivalent to those set forth in appendix F to 40 CFR part 60.

(c) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in section 2.3 of appendix D to 40 CFR part 75.

(d) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test for the combustion device, as required under 40 CFR 60.8, is conducted.

(3) Upon approval by the Director, the monitoring plan shall be implemented.

(4) The following shall be considered periods of excess emissions:

All rolling 24-hour periods during which the average concentration of sulfur as measured by the sulfur continuous monitoring system under Condition XII.C.2.a exceeds the applicable limitation on fuel sulfur concentration.

(5) The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

b. Periodic Monitoring

(1) The Permittee shall collect samples of fuel as follows:

(a) Each sample shall be obtained in duplicate.

(b) Representative samples shall be obtained from each fuel drum from which fuel is fed to the combustion device.

(c) Representative samples shall be obtained from each fuel drum at least once per calendar week.

(2) The Permittee shall analyze each fuel sample as follows:

(a) Each sample shall be analyzed for the following reduced sulfur compounds:

1) Carbon disulfide [CS_2] [CAS No. 75-15-0]

2) Carbonyl sulfide [COS] [CAS No. 463-58-1]

3) Dimethyl disulfide [$(CH_3)_2S_2$] [CAS No. 62-49-20]

4) Dimethyl sulfide [$(CH_3)_2S$] [CAS No. 75-18-3]

5) Hydrogen sulfide [H_2S] [CAS No. 7783-06-4]

6) Methyl mercaptan [CH_4S] [CAS No. 74-93-1]

(b) Analysis shall be performed using ASTM Test Method D6228-98, "Standard Test Method for Determination of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatography and Flame Photometric Detection." Alternative analytical methods may be used subject to prior approval by the Director.

(c) Each sample shall be analyzed within the time period specified in the analytical method, or, if no time period is specified in the analytical method, within 12 hours after collection.

(d) The Permittee shall record the results of each analysis, including the following information:

1) The designation of the fuel drum from which the sample was collected;

2) The time and date of sample collection;

3) The name of the person collecting the sample;

4) The time and date of sample analysis;

5) The analytical results for each analyte; and

6) The analytical results for total sulfur, calculated as the sum of the results for all analytes, expressed as H_2S.

(e) For each fuel analysis sample analyzed, the Permittee shall calculate and record the ratio of total sulfur to H_2S.

(3) The Permittee shall calculate and record the fuel sulfur concentration as follows:

(a) For each 1-hour average RFG H_2S concentration recorded in accordance with Condition XII.C.1, the Permittee shall calculate and record the 1-hour average and 24-hour average fuel sulfur concentrations.

(b) The 1-hour average fuel sulfur concentration shall be calculated as the product of the following two values:

1) The 1-hour average RFG H_2S concentration; and

2) The ratio of total sulfur to H_2S, based on the most recently recorded value for the particular fuel drum under Condition XII.C.2.b(2)(e).

(c) The 24-hour average fuel sulfur concentration shall be calculated as the arithmetic average of the 24 most recent 1-hour average fuel sulfur concentration values calculated in accordance with Condition XII.C.2.b(3)(b).

(4) The following shall be considered periods of excess emissions:

All rolling 24-hour periods during which the 24-hour average fuel sulfur concentration as determined in accordance with Condition XII.C.2.b(3)(c) exceeds the applicable limitation on fuel sulfur concentration.

(5) The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

3. Storage Vessels

a. The Permittee shall keep readily accessible records showing the dimensions of the Rich Amine Tank and the Lean Amine Tank and an analysis showing the capacity of each storage vessel. This record shall be kept as long as the storage vessels are in operation.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 40 CFR 63.123(a) by ref.}]

b. The Permittee shall install, calibrate, maintain, and continuously operate level indicators showing the quantity of liquid stored in the Rich Amine Tank and the Lean Amine Tank.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

c. The Permittee shall maintain records of the liquids stored in the Rich Amine Tank and the Lean Amine Tank in accordance with the following:

(1) At least once per calendar day, the Permittee shall record the quantity of liquid stored in the Rich Amine Tank and the Lean Amine Tank.

(2) The Permittee shall maintain continuous records of the maximum true vapor pressure of liquids stored in the Rich Amine Tank and the Lean Amine Tank.

(3) For the purpose of records required by Condition XII.C.3.c(2), available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(a) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature.

(b) For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(4) For the purpose of records required by Condition XII.C.3.c(2), the vapor pressure of the stored liquids may be determined using any of the following methods:

(a) Obtained from standard reference texts.

(b) Determined by ASTM D2879-83, 96, or 97.

(c) Measured by an appropriate method approved by the Director.

(d) Calculated by an appropriate method approved by the Director.

[A.A.C. R18-2-306(A)(4) and R18-2-406(A)(4)]

4. Rich Amine Three Phase Separator

If the gases discharged from the Rich Amine Three Phase Separator are vented using a vent system that contains bypass lines that could divert the vent stream away from the Sulfur Recovery Plant Thermal Oxidizer, the Permittee shall comply with Conditions XII.C.4.a through XII.C.4.d. Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, pressure relief valves needed for safety reasons, and equipment subject to the provisions of Section XXIII of Attachment "B" are not considered to be bypass lines subject to this condition.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)}]

a. The Permittee shall monitor the bypass line in accordance with either Condition XII.C.4.a(1) or XII.C.4.a(2).

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)}]

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device and to the atmosphere.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)(1)}]

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4), R18-2-1101(B)(23) {40 CFR 63.644(c)(2)}]

b. If the Permittee elects to comply with Condition XII.C.4.a(1), the Permittee shall generate hourly records of whether the flow indicator was operating and whether flow was detected at any time during the hour.

(1) The Permittee shall record the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating.

(2) Each period identified and recorded under Condition XII.C.4.b(1) shall constitute a period of excess emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(ii)}]

c. If the Permittee elects to comply with Condition XII.C.4.a(2), the Permittee shall generate records that monthly inspections were performed.

(1) The Permittee shall record all monthly inspections that show the valves are not closed or the seal has been changed.

(2) Each period identified and recorded under Condition XII.C.4.c(1) shall constitute a period of excess emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(ii)}]

d. The Permittee shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in Conditions XII.C.4.b(1) or XII.C.4.c(1) occur.

(1) The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted pursuant to Condition XIV.D.10.a.

(2) A Periodic Report is not required if none of the compliance exceptions specified in Conditions XII.C.4.b(1) or XII.C.4.c(1) occurred during the 6-month period.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(3) Periods of excess emissions as defined in Conditions XII.C.4.b(1) and XII.C.4.c(1) shall be identified in the Periodic Reports.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)}]

5. Amine Regenerator

The quantity of rich amine solution processed in the Amine Regenerator, in gallons, shall be determined and recorded at least once per calendar day.
[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(14), R18-2-1101(B)(23).
[A.A.C. R18-2-325]

XIII. SOUR WATER STRIPPER

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Sour Water Tank (T-11100)	Storage vessel: 3.78 million gallons working capacity	Internal Floating Roof and Carbon Adsorption System	Not applicable
Sour Water Flash Drum (V-11100)	Process vessel	Sulfur Recovery Plant Thermal Oxidizer	Not applicable
Sour Water Stripper (V-11120)	Stripper tower with steam-heated reboiler	Sulfur Recovery Plant	Not applicable
Equipment Leaks (n/a)	Fugitive VOC, H_2S emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall ensure that all gases discharged from the Sour Water Flash Drum containing H_2S or VOC are routed to the Sulfur Recovery Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4), R18-2-1101(B)(23) {40 CFR 63.643(a)(2)}]

b. The Permittee shall ensure that all gases discharged from the Sour Water Stripper containing H_2S or VOC shall be routed to the Sulfur Recovery Plant.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

c. The Permittee shall ensure that available sour water storage capacity of at least 3.78 million gallons is available continuously.

[A.A.C. R18-2-306(A)(2)]

d. The Permittee shall not cause or allow the quantity of sour water processed in the Sour Water Stripper to exceed 3.78 million gallons per calendar day.

[A.A.C. R18-2-306(A)(2)]

e. In the event of an emergency acid gas flaring situation, or any upset that results in an exceedance of the Sulfur Recovery Plant emission standards in Conditions XIV.B.2.a or XIV.B.2.b, the Permittee shall ensure that the following measures are taken to ensure that excess SO_2 emissions are minimized:

(1) Sour water feed shall be re-routed to the Sour Water Tank within fifteen minutes.

(2) Production at upstream process units shall be curtailed as necessary in order to minimize acid gas flaring and excess emissions from the Sulfur Recovery Plant.

[A.A.C. R18-2-406(A)(4)]

f. The Permittee shall not cause or allow liquid with a true vapor pressure of 76.6 kPa or greater to be stored in the Sour Water Tank.

[A.A.C. R18-2-306.01(A), R18-2-331(A)(3)(a)]

2. Emission Standards for Sour Water Tank

The Permittee shall equip the Sour Water Tank with a fixed roof, an internal floating roof, and a closed vent system routed to a carbon adsorption system. The internal floating roof and the carbon adsorption system shall meet the following specifications and requirements:

[A.A.C. R18-2-331(A)(3)(d), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.112b(a)}]

a. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the tank is completely emptied or subsequently emptied and refilled.

[A.A.C. R18-2-331(A)(3)(e), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.112b(a)(1)(i)}]

(1) For the purpose of Condition XIII.B.2.a, tanks in which liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.

[A.A.C. R18-2-406(A)(4) and R18-2-901(17) {40 CFR 60.112b(a)(1)(i)}]

(2) When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

[A.A.C. R18-2-406(A)(4) and R18-2-901(17) {40 CFR 60.112b(a)(1)(i)}]

b. The internal floating roof shall be equipped with a closure device between the wall of the tank and the edge of the internal floating roof.

[A.A.C. R18-2-331(A)(3)(d), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.112b(a)(1)(ii)}]

(1) The closure device is to consist of two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the tank and the edge of the internal floating roof. The lower seal is referred to as the primary seal and the upper seal is referred to as the secondary seal.

(a) The primary seal shall be either a liquid-mounted seal or a mechanical shoe seal.

(b) A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the tank and the floating roof continuously around the circumference of the tank.

(c) A mechanical shoe seal is a metal sheet held vertically against the wall of the tank by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

[A.A.C. R18-2-331(A)(3)(d), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.112b(a)(1)(ii)}]

(2) Except during the inspections required by Condition XIII.E.3, both the primary seal and the secondary seal shall completely cover the annular space between the internal floating roof and the wall of the tank in a continuous fashion.

[A.A.C. R18-2-331(A)(3)(e) and R18-2-406(A)(4)]

c. Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(iii)}]

d. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(iv)}]

e. Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(v)}]

f. Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(vi)}]

g. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(vii)}]

h. Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(viii)}]

i. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

[A.A.C. R18-2-901(17) {40 CFR 60.112b(a)(1)(ix)}]

j. The carbon adsorption system shall be designed and operated as follows:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(1) The system shall include dual carbon canisters (i.e., primary and secondary canisters) in series.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(2) Each carbon canister shall be designed to recover or control the H_2S emissions vented to it with an efficiency of 95 weight percent or greater.

[A.A.C. R18-2-406(A)(4)]

(3) The Permittee shall replace the primary carbon canister immediately upon detection of breakthrough pursuant to Condition XIII.C.3.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) For the purpose of Condition XIII.B.2.j(3), "immediately" shall mean within 24 hours.

[A.A.C. R18-2-406(A)(4)]

(b) Replacement of the primary carbon canister pursuant to Condition XIII.B.2.j(3) shall be performed as follows:

[A.A.C. R18-2-406(A)(4)]

1) Either the secondary carbon canister or a fresh carbon canister may be used to replace the primary carbon canister.

2) A fresh carbon canister shall be used to replace the secondary carbon canister.

3. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

At all times when the Sour Water Tank is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Carbon Adsorption System in a manner consistent with good air pollution control practice for minimizing emissions of H_2S and VOC.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. The Permittee shall install, calibrate, maintain, and continuously operate a level indicator showing quantity of liquid stored in the Sour Water Tank.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

2. The Permittee shall maintain operating records as follows:

   a. The quantity of liquid stored in the Sour Water Tank, in gallons, shall be recorded at least once per calendar day.

   b. The available storage capacity in the Sour Water Tank shall be calculated at least once per calendar day. The available storage capacity shall be calculated as the difference between the working capacity of the tank and the quantity of liquid stored in the tank, and shall be expressed in gallons.

   c. The quantity of sour water processed in the Sour Water Stripper, in gallons, shall be determined and recorded at least once per calendar day.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

3. The Permittee shall keep readily accessible records showing the dimension of the Sour Water Tank and an analysis showing the capacity of the Sour Water Tank. This record shall be kept for the life of the source.

[A.A.C. R18-2-901(17) {40 CFR 60.116b(a) & (b)}]

4. The maximum true vapor pressure shall be determined in accordance with the following:

[A.A.C. R18-2-901(17) {40 CFR 60.116b(e) & (f)}]

   a. The temperature used in determining the maximum true vapor pressure shall be determined as follows:

      (1) For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature.

      (2) For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

[A.A.C. R18-2-901(17) {40 CFR 60.116b(e)(1)}]

b. Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored shall be determined using one of the following methods:

(1) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference -- see 40 CFR 60.17); or

(2) Measured by an appropriate method approved by the Administrator; or

(3) Calculated by an appropriate method approved by the Administrator.

[A.A.C. R18-2-901(17) {40 CFR 60.116b(e)(3) and 40 CFR 60.116b(f)(1)}]

c. The Permittee shall perform an initial physical test of the vapor pressure and a physical test at least once every 6 months thereafter, using one the following methods:

(1) ASTM D2879-83, 96, or 97 (incorporated by reference -- see 40 CFR 60.17); or

(2) ASTM D323-82 or 94 (incorporated by reference -- see 40 CFR 60.17); or

(3) As measured by an appropriate method as approved by the Administrator.

[A.A.C. R18-2-901(17) {40 CFR 60.116b(f)(2)}]

5. If the Sour Water Tank stores a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa, the Permittee shall notify the Director within 30 days when the maximum true vapor pressure of the liquid exceeds this value.

[A.A.C. R18-2-901(17) {40 CFR 60.116b(d)}]

6. With respect to the internal floating roof required by Condition XIII.B.2, the Permittee shall keep records and furnish reports in accordance with the following requirements.

[A.A.C. R18-2-901(17) {40 CFR 60.115b(a)}]

a. Furnish the Director with a report that describes the control equipment and certifies that the control equipment meets the specifications of Conditions XIII.B.2 and XIII.D.1. This report shall be an attachment to the notification required by 40 CFR part 60, § 60.7(a)(3).

[A.A.C. R18-2-901(17) {40 CFR 60.115b(a)(1)}]

b. Keep a record of each inspection performed as required by Conditions XIII.E.1 through XIII.E.3. Each record shall identify the tank on which the inspection was performed and shall contain the date the tank was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

[A.A.C. R18-2-901(17) {40 CFR 60.115b(a)(2)}]

c. If any of the conditions described in Condition XIII.E.2 are detected during the annual visual inspection required by Condition XIII.E.2, a report shall be furnished to the Director within 30 days of the inspection. Each report shall identify the tank, the nature of the defects, and the date the tank was emptied or the nature of and date the repair was made.

[A.A.C. R18-2-901(17) {40 CFR 60.115b(a)(3)}]

7. With respect to the carbon adsorption system required by Condition XIII.B.2, the Permittee shall perform monitoring, recordkeeping, and reporting as follows:

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

a. Monitoring shall be performed at a location between the primary and secondary carbon canisters. The concentration level of H_2S shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater. "Breakthrough" shall be defined as any reading equal to or greater than 5 ppmvd H_2S.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

b. The Permittee shall maintain engineering design documentation used to demonstrate compliance with Condition XIII.B.2.j(2). This documentation shall include specifications, drawings, schematics, and piping and instrumentation diagrams that describe the control device design based on acceptable engineering texts. The design analysis shall address the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level and the design exhaust vent stream H_2S concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and Sour Water Tank operating schedule.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

c. The Permittee shall maintain records of dates and times when the carbon adsorption system is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit. Each occurrence when the carbon is not replaced in accordance with Conditions XIII.B.2.j(3) shall be considered a deviation.

[A.A.C. R18-2-306(A)(5)(b)]

8. Sour Water Flash Drum

<u>If the gases discharged from the Sour Water Flash Drum are vented using a vent system that contains bypass lines that could divert the vent stream away from the Sulfur Recovery Plant Thermal Oxidizer, the Permittee shall comply with Conditions XIII.C.8.a through XIII.C.8.d.</u> Equipment such as low leg drains, high point bleeds,

analyzer vents, open-ended valves or lines, pressure relief valves needed for safety reasons, and equipment subject to the provisions of Section XXIII of Attachment "B" are not considered to be bypass lines subject to this condition.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)}]

a. The Permittee shall monitor the bypass line in accordance with either Condition XIII.C.8.a(1) or XIII.C.8.a(2).

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)}]

(1) Install, calibrate, maintain, and operate a flow indicator that determines whether a vent stream flow is present at least once every hour. The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device and to the atmosphere.

[A.A.C. R18-2-331(A)(3)(c), R18-2-1101(B)(23) {40 CFR 63.644(c)(1)}]

(2) Secure the bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4), R18-2-1101(B)(23) {40 CFR 63.644(c)(2)}]

b. If the Permittee elects to comply with Condition XIII.C.8.a(1), the Permittee shall generate hourly records of whether the flow indicator was operating and whether flow was detected at any time during the hour.

(1) The Permittee shall record the times and durations of all periods when the vent stream is diverted through a bypass line or the monitor is not operating.

(2) Each period identified and recorded under Condition XIII.C.8.b(1) shall constitute a period of excess emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(ii)}]

c. If the Permittee elects to comply with Condition XIII.C.8.a(2), the Permittee shall generate records that monthly inspections were performed.

(1) The Permittee shall record all monthly inspections that show the valves are not closed or the seal has been changed.

(2) Each period identified and recorded under Condition XIII.C.8.c(1) shall constitute a period of excess emissions.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(ii)}]

d. The Permittee shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in Conditions XIII.C.8.b(1) or XIII.C.8.c(1) occur.

(1) The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted pursuant to Condition XIV.D.10.a.

(2) A Periodic Report is not required if none of the compliance exceptions specified in Conditions XIII.C.8.b(1) or XIII.C.8.c(1) occurred during the 6-month period.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(3) Periods of excess emissions as defined in Conditions XIII.C.8.b(1) and XIII.C.8.c(1) shall be identified in the Periodic Reports.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)}]

E. Testing Requirements

The Permittee shall meet the following requirements with respect to the Sour Water Tank:
[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.113b(a)}]

1. Visually inspect the internal floating roof, the primary seal, and the secondary seal, prior to filling the tank with volatile organic liquid. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the Permittee shall repair the items before filling the tank.
[A.A.C. R18-2-901(17) {40 CFR 60.113b(a)(1)}]

2. Visually inspect the internal floating roof and the secondary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the liquid inside the tank, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the Permittee shall repair the items or empty and remove the tank from service within 45 days. If a failure that is detected during inspections required in this condition cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Director in the inspection report required in Condition XIII.C.6.c. Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the Permittee will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), and R18-2-901(17) {40 CFR 60.113b(a)(2)}]

3. Visually inspect the internal floating roof, the primary seal, the secondary seal, gaskets, slotted membranes and sleeve seals (if any) each time the tank is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10

percent open area, the Permittee shall repair the items as necessary so that none of the conditions specified in this condition exist before refilling the tank. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years.

[A.A.C. R18-2-901(17) {40 CFR 60.113b(a)(4)}]

4. Notify the Director in writing at least 30 days prior to the filling or refilling of the Sour Water Tank to afford the Director the opportunity to have an observer present. If the inspection required by Condition XIII.E.3 is not planned and the Permittee could not have known about the inspection 30 days in advance of refilling the tank, the Permittee shall notify the Director at least 7 days prior to the refilling of the tank. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by the Director at least 7 days prior to the refilling.

[A.A.C. R18-2-901(17) {40 CFR 60.113b(a)(5)}]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(17), R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XIV. SULFUR RECOVERY PLANT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Sulfur Recovery Unit No. 1 (B-13120, V-13130, V-13140)	Three-stage Claus sulfur recovery unit	Tail Gas Treatment Unit (Reducing Reactor) and Thermal Oxidizer	EP-12
Sulfur Recovery Unit No. 2 (B-13220, V-13230, V-13240)	Three-stage Claus sulfur recovery unit	Tail Gas Treatment Unit (Reducing Reactor) and Thermal Oxidizer	EP-12
Sulfur Recovery Plant Thermal Oxidizer (B-13500)	Natural gas or RFG-fired, 100 MMBtu/hr heat input (HHV)	Not applicable	EP-12
Sulfur Pit No. 1 (T-13150)	Storage vessel: 294,000 gallons storage capacity, storing recovered sulfur	Sulfur Recovery Unit Nos. 1 and 2	Not applicable
Sulfur Pit No. 2 (T-13250)	Storage vessel: 294,000 gallons storage capacity, storing recovered sulfur	Sulfur Recovery Unit Nos. 1 and 2	Not applicable
MDEA Storage Tank (T-13440)	Storage vessel: 25,200 gallons working capacity	Not applicable	Not applicable
Sulfur Product Rail Car Loading Rack (Y-45401)	Loading rack: 36,000 gallons per hour loading capacity	Not applicable	Not applicable
Sulfur Product Truck Loading Rack (Y-47801)	Loading rack: 36,000 gallons per hour loading capacity	Not applicable	Not applicable
Equipment Leaks (n/a)	Fugitive VOC, H_2S emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall ensure that all gases discharged from Sulfur Pit No. 1 or Sulfur Pit No. 2 are collected and routed to the front end of either Sulfur Recovery Unit No. 1 or Sulfur Recovery Unit No. 2.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

b. The Permittee shall ensure that all gases discharged from Sulfur Recovery Units Nos. 1 and 2 are collected and routed to the front end of the Tail Gas Treatment Unit.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

c. The Permittee shall ensure that all gases discharged from the Tail Gas Treatment Unit are collected and routed to the Sulfur Recovery Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

d. In the event of an upset that results in an exceedance of the Sulfur Recovery Plant emission standards in Conditions XIV.B.2.a or XIV.B.2.b, the Permittee shall ensure that the production at upstream process units is curtailed to ensure that excess SO_2 emissions are minimized.

[A.A.C. R18-2-306(A)(2)]

e. The Permittee shall not cause or allow liquid with a true vapor pressure of 3.4 kPa or greater to be stored in the MDEA Storage Tank.

[A.A.C. R18-2-406(A)(4)]

f. The Permittee shall not cause or allow to be loaded into any rail car or truck any sulfur which contains H_2S in excess of 15 parts per million by weight.

[A.A.C. R18-2-406(A)(4)]

2. Sulfur Dioxide Emission Standards

The Permittee shall not cause or allow to be emitted to the atmosphere from the Sulfur Recovery Plant any gases which contain SO_2 in excess of any of the following limits:

a. 250 ppmv, dry basis, corrected to 0.0 percent oxygen, based on a rolling 12-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(2)(i)}, A.A.C. R18-2-1101(B)(58), 40 CFR 63.1568(a)(1)]

b. 33.5 pounds per hour, based on a rolling one-hour average.

[A.A.C. R18-2-406(A)(4)]

3. VOC Emission Standards

a. The Permittee shall reduce emissions of VOC in vent streams from the Sour Water Flash Drum and Rich Amine Three Phase Separator by 98 weight-percent or to a concentration of 20 ppmvd, corrected to 3 percent

oxygen, whichever is less stringent. Each of these limits shall be based on a 3-hour averaging period.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.643(a)(2)}]

b. The Permittee shall continuously maintain the Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature at a level at least as high as the minimum level established pursuant to Condition XIV.E.4.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(e)}]

c. The Permittee shall continuously operate the Sulfur Recovery Plant Thermal Oxidizer exhaust gas volumetric flow rate at a level equal to or less than the maximum level established pursuant to Condition XIV.E.4.

[A.A.C. R18-2-406(A)(4)]

4. Reduced Sulfur Compounds Emission Standards

a. The Permittee shall not cause or allow to be emitted to the atmosphere from the Sulfur Recovery Plant Thermal Oxidizer any gases which contain reduced sulfur compounds in excess of 0.089 lb/hr, as H_2S, based on a 3-hour average.

b. As used in Condition XIV.B.4.a, the term "reduced sulfur compounds" shall be interpreted to mean hydrogen sulfide (H_2S), carbonyl sulfide (COS) and carbon disulfide (CS_2).

c. The Permittee shall continuously maintain the Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature at a level at least as high as the minimum level established pursuant to Condition XIV.E.4.

[A.A.C. R18-2-406(A)(4)]

d. The Permittee shall continuously maintain the Sulfur Recovery Plant Thermal Oxidizer exhaust gas volumetric flow rate at a level equal to or less than the maximum level established pursuant to Condition XIV.E.4.

[A.A.C. R18-2-406(A)(4)]

5. Nitrogen Oxides Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Sulfur Recovery Plant any gases which contain NO_X in excess of 0.06 lb per MMBtu heat input, based on a rolling one-hour average.

[A.A.C. R18-2-406(A)(4)]

6. General Requirements for Sulfur Recovery Units

a. The Permittee shall prepare an operation, maintenance, and monitoring plan according to the requirements in Condition XIV.D.7 and shall operate at all times according to the procedures in the plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1568(a)(3)]

b. The Permittee shall be in compliance with Condition XIV.B.2.a during the times specified in 40 CFR 63.6(f)(1).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(a)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR 63.6(e)(3).
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(d)]

d. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(e)]

e. Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The startup, shutdown, and malfunction plan must require that good air pollution control practices are used during those periods. The plan must also include elements designed to minimize the frequency of such periods (i.e., root cause analysis). The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR 63.6(e) and the contents of the startup, shutdown, and malfunction plan.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(g)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. Tail Gas Treatment Unit

At all times when the Sulfur Recovery Plant is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Tail Gas Treatment Unit in a manner consistent with good air pollution control practice for minimizing emissions of SO_2 and reduced sulfur compounds.
[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. Sulfur Recovery Plant Thermal Oxidizer

a. At all times when the Amine Regeneration Unit, Sour Water Stripper, or Sulfur Recovery Plant is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Sulfur Recovery Plant Thermal Oxidizer in a

manner consistent with good air pollution control practice for minimizing emissions of SO_2 and reduced sulfur compounds.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

b. At all times when the Sulfur Recovery Plant Thermal Oxidizer is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing emissions of NO_X.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

For each hour of operation of the Sulfur Recovery Plant Thermal Oxidizer, the fuels combusted and the heat input shall be monitored and recorded.

[A.A.C. R18-2-306(A)(3)(c)]

2. Storage Vessels

a. The Permittee shall keep readily accessible records showing the dimensions of the MDEA Storage Tank and an analysis showing the capacity of the tank. This record shall be kept as long as the tank is in operation.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 40 CFR 63.123(a) by ref.}]

b. The Permittee shall maintain records of the liquids stored in the MDEA Storage Tank in accordance with the following:

(1) The Permittee shall maintain continuous records of the maximum true vapor pressure of liquids stored in the MDEA Storage Tank.

(2) For the purpose of records required by Condition XIV.D.2.b(1), available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(a) For tanks operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature.

(b) For tanks operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

(3) For the purpose of records required by Condition XIV.D.2.b(1), the vapor pressure of the stored liquids may be determined using any of the following methods:

(a) Obtained from standard reference texts.

(b) Determined by ASTM D2879-83, 96, or 97.

(c) Measured by an appropriate method approved by the Director.

(d) Calculated by an appropriate method approved by the Director.

[A.A.C. R18-2-306(A)(4) and R18-2-406(A)(4)]

3. Hydrogen Sulfide Content of Sulfur Product

The Permittee shall analyze and record the H_2S concentration of the sulfur product in accordance with the following:

a. Analyses of the sulfur product in Sulfur Pit No. 1 and Sulfur Pit No. 2 shall be performed at least once each calendar day, except as provided in Condition XIV.D.3.b.

b. If no sulfur product from a Sulfur Pit is loaded into rail cars or trucks on a particular calendar day, no analysis is required on that day.

c. Analyses shall be performed using a method approved by the Director.

d. Readily accessible records of each analysis of sulfur product H_2S concentration shall be maintained.

[A.A.C. R18-2-306(A)(3) & (4); R18-2-406(A)(4)]

4. Monitoring for Sulfur Dioxide Concentration

a. The Permittee shall install, calibrate, maintain, and continuously operate a continuous emission monitoring system for monitoring and recording the SO_2 concentration of gases emitted to the atmosphere from the Sulfur Recovery Plant Thermal Oxidizer.

(1) The continuous emission monitoring system shall include an oxygen monitor for correcting the data for excess oxygen.

(2) The span values for this continuous emission monitoring system are 500 ppm SO_2 and 10 percent O_2.

(3) The continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) The monitoring system shall collect hourly average SO_2 monitoring data (dry basis, corrected to 0.0 percent oxygen).

(5) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2.

(6) Methods 6 or 6C and 3 or 3A shall be used for conducting the relative accuracy evaluations.

(7) The continuous emission monitoring system shall be operated in accordance with 40 CFR part 60, appendix F, "Quality Assurance Procedures," except that relative accuracy test audits are required annually instead of quarterly.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(5)}, A.A.C. R18-2-1101(B)(58), 40 CFR 63.1568(b)(1), 40 CFR 63.1568(c)(1), 40 CFR 63.1572(a)(1)-(a)(3),]

b. All averages shall be determined as the arithmetic average of the applicable 1-hour averages, e.g., the rolling 12-hour average shall be determined as the arithmetic average of twelve contiguous 1-hour averages.

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}, A.A.C. R18-2-1101(B)(58), 40 CFR 63.1568(c)(1)]

c. The Permittee shall monitor and collect data under Conditions XIV.D.4.a and XIV.D.4.b according to the following requirements.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1572(d)]

(1) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or collect data at all required intervals) at all times the Sulfur Recovery Unit No. 1 or Sulfur Recovery Unit No. 2 is operating.

(2) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities for the purposes of subpart UUU of 40 CFR 63, including data averages and calculations, for fulfilling a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system.

d. For any periods for which sulfur dioxide emissions data are not available, the Permittee shall submit a signed statement indicating if any changes were made in the operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

[A.A.C. R18-2-901(14) {40 CFR 60.107(d)}]

e. For the purpose of reports under 40 CFR 60.7(c), the following shall be considered periods of excess emissions:

All 12-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XIV.D.4.a exceeds the emission standard in Condition XIV.B.2.a.

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(4)(i)}]

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

g. The Permittee may request approval from the Director to use an automated data compression system. An automated data compression system does not record monitored operating parameter values at a set frequency (e.g., once every hour) but records all values that meet set criteria for variation from previously recorded values. Such a request must contain a description of the monitoring system and data recording system, including the criteria used to determine which monitored values are recorded and retained, the method for calculating daily averages, and a demonstration that the system meets the following criteria:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1573(c)]

(1) The system measures the operating parameter value at least once every hour;

(2) The system records at least 24 values each day during periods of operation;

(3) The system records the date and time when monitors are turned off or on;

(4) The system recognizes unchanging data that may indicate the monitor is not functioning properly, alerts the operator, and records the incident; and

(5) The system computes daily average values of the monitored operating parameter based on recorded data.

h. The Permittee shall keep the following records:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a) & (b)]

(1) A copy of each notification and report submitted pursuant to Conditions XIV.D.8 and XIV.D.9. These records shall include all documentation supporting any initial notification or Notification of Compliance Status submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(1)]

(2) The records in 40 CFR 63.6(e)(1)(iii) through (v) related to startup, shutdown, and malfunction.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(2)]

(3) Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(a)(3)]

(4) For the SO_2 continuous emission monitoring system required by Condition XIV.D.4.a, the records described in 40 CFR 63.10(b)(2)(vi) through (xi).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(b)(1)]

(5) For the SO_2 continuous emission monitoring system required by Condition XIV.D.4.a, the records described in 40 CFR 63.8(d)(3).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(b)(3)]

(6) For the SO_2 continuous emission monitoring system required by Condition XIV.D.4.a, records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period. For the purposes of this condition, each instance in which the emission limitation under Condition XIV.B.2.a is not met is a deviation.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(b)(5)]

i. The Permittee shall keep a current copy of the operation, maintenance, and monitoring plan, required by Condition XIV.D.7, onsite and available for inspection. The Permittee shall also keep records to show continuous compliance with the procedures in the operation, maintenance, and monitoring plan.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(e)]

j. In order to demonstrate compliance with Condition XIV.B.2.a, the Permittee shall keep records of any changes that affect emission control system performance.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(f)]

k. During the period between the initial startup of the Sulfur Recovery Plant and the date upon which continuous monitoring systems have been installed and validated and any applicable operating limits have been set, the Permittee shall maintain a log detailing the operation and maintenance of the Sulfur Recovery Plant and emissions control equipment.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(c)]

l. Records required to be kept under Conditions XIV.D.4.a through XIV.D.4.k shall meet the following requirements:

(1) Records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(g)]

(2) As specified in 40 CFR 63.10(b)(1), each record shall be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(h)]

(3) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). Records can be kept offsite for the remaining 3 years.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1576(i)]

5. Monitoring for VOC and Reduced Sulfur Compounds Emission Standards

a. The Permittee shall install, calibrate, maintain, and continuously operate devices for monitoring and recording the exhaust gas volumetric flow rate and the combustion chamber temperature of the Sulfur Recovery Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(c), R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(a)(1)}]

(1) Each monitoring device shall be equipped with a continuous recorder.

[A.A.C. R18-2-331(A)(3)(c), R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(a)(1)}]

(2) The temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(a)(1)(i)}]

(3) The exhaust gas volumetric flow rate and the combustion chamber temperature shall be determined and recorded with a minimum frequency of one reading every 15 minutes.

[A.A.C. R18-2-406(A)(4)]

(4) All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately.

[A.A.C. R18-2-331(A)(3)(c), R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(a)(1)}]

(5) The exhaust gas flow rate monitoring system required by Condition XIV.D.6.a may be used to meet the flow rate monitoring device requirements in Condition XIV.D.5.a.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall keep the following records:
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)}]

(1) The Permittee shall record each exhaust gas volumetric flow rate value and each combustion chamber temperature value determined pursuant to Condition XIV.D.5.a.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(3)(ii)}]

(2) The Permittee shall calculate and record the average exhaust gas volumetric flow rate and the average combustion chamber temperature for each three-hour block.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(3)}]

(a) Each three-hour average shall be calculated as the average of all recorded values during the three-hour block.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(3)(iii)}]

(b) For the purposes of Condition XIV.D.5.b(2), three-hour blocks shall begin at 12:00 AM, 3:00 AM, and so on.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(3)(iii)}]

(c) Flow rate and temperature monitoring data recorded during periods of monitoring system breakdowns, repairs, calibration checks, and zero (low-level) and high-level adjustments shall not be included in any average computed under Condition XIV.D.5.b(2). Records shall be kept of the times and durations of all such periods and any other periods during process or control device operation when the monitoring device is not operating.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(3)(v)}]

(3) A record of all performance test results reported pursuant to Condition XIV.D.10.c, as well as a complete test report pursuant to Condition XIV.D.10.d.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(i)(2)}]

c. The following shall be considered periods of excess emissions:
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(e), 40 CFR 63.654(g)(6)(i)}]

(1) Each 3-hour block when the average combustion chamber temperature of the Sulfur Recovery Plant Thermal Oxidizer is less than the minimum temperature value established pursuant to Condition XIV.E.4 or when the average exhaust gas volumetric flow rate to the Sulfur Recovery Plant Thermal Oxidizer is more than the maximum flow rate value established pursuant to Condition XIV.E.4.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(i)(A)}]

(2) Each calendar day when monitoring data required to be recorded in Condition XIV.D.5.b(1) are available for fewer than 75 percent of the operating hours.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(g)(6)(i)(C)}]

d. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

6. Monitoring for Sulfur Dioxide and Nitrogen Oxides Emission Rates

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission rate monitoring systems for monitoring and recording the emission rates to the atmosphere from the Sulfur Recovery Plant for sulfur dioxide and nitrogen oxides.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

b. The continuous emission rate monitoring systems shall meet the following requirements:

(1) 40 CFR part 60, appendix B, "Performance Specifications"

(a) Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources.*

(b) Performance Specification 6, *Specifications and test procedures for continuous emission rate monitoring systems in stationary sources.*

(2) 40 CFR part 60, appendix F, "Quality Assurance Procedures."

(3) The Permittee shall submit a Quality Assurance/Quality Control Plan to the Director 30 days prior to the instrument start-up including procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, Subpart D (§ 75.30). When approved by the Director, this plan shall be implemented.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

c. The continuous emission monitoring system required by Condition XIV.D.4.a may be used as the SO_2 analyzer within the SO_2 continuous emission rate monitoring system required by Condition XIV.D.6.a.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all

other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

[A.A.C. R18-2-306(A)(4), R18-2-406(A)(4)]

e. Each continuous monitoring system shall be installed and operational prior to conducting required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

f. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

g. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this condition.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

h. The following shall be considered periods of excess emissions:

(1) All 1-hour periods for which the SO_2 emission rate to the atmosphere as determined in accordance with Condition XIV.D.6 exceeds the emission standard in Condition XIV.B.2.b.

(2) All 1-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition XIV.D.6 exceeds the emission standard in Condition XIV.B.5.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

i. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

7. Operation, Maintenance, and Monitoring Plan

As required by Condition XIV.B.6.a, the Permittee shall prepare and implement an operation, maintenance, and monitoring plan for the Sulfur Recovery Units and associated control systems and continuous monitoring systems. The purpose of this plan is to detail the operation, maintenance, and monitoring procedures that the Permittee will follow.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)]

a. The Permittee shall submit the plan to the Director for review and approval along with the notification of compliance status. The Permittee shall submit any changes to the Director for review and approval and shall comply with the plan until the change is approved.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(1)]

b. The plan must include, at a minimum, the information specified in Conditions XIV.D.7.b(1) through XIV.D.7.b(5).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)]

(1) Process and control device parameters to be monitored, along with established operating limits.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(i)]

(2) Procedures for monitoring emissions and process and control device operating parameters for each affected source.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(ii)]

(3) Monitoring schedule, including when monitoring will and will not be performed for an affected source.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(viii)]

(4) Quality control plan for each continuous emission monitoring system to be used to meet the emission limit in Condition XIV.B.2.a. This plan must include procedures to be used for calibrations, accuracy audits, and adjustments to the system needed to meet applicable requirements for the system.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(ix)]

(5) Maintenance schedule for each affected source, monitoring system, and control device that is generally consistent with the manufacturer's instructions for routine and long-term maintenance.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(f)(2)(x)]

8. Notifications for Sulfur Dioxide Concentration Limit

a. The Permittee shall submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in Conditions XIV.D.8.b and XIV.D.8.c.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1568(b)(7)]

b. Except as allowed in Conditions XIV.D.8.b(1) through XIV.D.8.b(3), the Permittee shall submit all of the notifications in 40 CFR part 63, subpart A, §§ 63.6(h), 63.7(b) and (c), 63.8(e), 63.8(f)(4), 63.8(f)(6), and 63.9(b) through (h), as applicable, by the dates specified.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(a)]

(1) The Permittee shall submit the notification of intent to conduct a performance test required in § 63.7(b) at least 30 calendar days before the performance test is scheduled to begin (instead of 60 days).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(a)(2)]

(2) For each performance test, performance evaluation, design evaluation, or other initial compliance demonstration, the Permittee shall submit a notification of compliance status according to § 63.9(h)(2)(ii). This information can be submitted in an amendment to an operating permit application, in a separate submission, or in any combination thereof. The Permittee shall provide duplicate notification to the applicable Regional Administrator.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(a)(3)]

(a) If the required information has been submitted previously, the Permittee is not required to provide a separate notification of compliance status. In this case, the Permittee shall provide a notification referring to the earlier submissions instead of duplicating and resubmitting the previously submitted information.

(b) For each initial compliance demonstration that does not include a performance test, the Permittee shall submit the Notification of Compliance Status no later than 30 calendar days following completion of the initial compliance demonstration.

(c) For each initial compliance demonstration that includes a performance test, the Permittee shall submit the notification of compliance status, including the performance test results, no later than 150 calendar days after initial startup of the Sulfur Recovery Unit.

c. The Permittee shall include the following information in the Notification of Compliance Status:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1574(d)]

(1) The following information relating to identification of the affected sources and emission points:

(a) Nature, size, design, method of operation, and operating design capacity of the affected source.

(b) Identify each emission point for each HAP.

(2) The following information relating to initial compliance:

(a) Identification of the applicable emission limitation under Condition XIV.B.2.a.

(b) Certification that the performance test required by Condition XIV.E.1 has been conducted.

(c) A brief description of the conditions (capacity, feed quality, catalyst, etc.) during the performance test required by Condition XIV.E.1.

(d) Certification of compliance with the applicable emission limitation under Condition XIV.B.2.a.

(e) Certification of compliance with the continuous emission monitoring system performance specifications pursuant to Condition XIV.D.4.a(5).

(3) The following information relating to continuous compliance:

(a) The definition of "operating day." (This definition, subject to approval by the Administrator, must specify the times at which a 24-hr operating day begins and ends.)

9. Reporting for Sulfur Dioxide Concentration

a. The Permittee shall submit compliance reports in accordance with the following:

(1) The Permittee shall report each instance in which the emission limitation under Condition XIV.B.2.a is not met. This includes periods of startup, shutdown, and malfunction.

(2) The Permittee shall report each instance in which the work practice standards under Condition XIV.B.6 are not met.

(3) The instances listed in Conditions XIV.D.9.a(1) and XIV.D.9.a(2) are deviations from the emission limitations and work practice standards.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1570(f), 40 CFR 63.1575(a)]

b. Compliance reports required by Condition XIV.D.9.a shall be submitted semiannually at the time of compliance certifications.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(b)]

c. Compliance reports required by Condition XIV.D.9.a shall contain the following information.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)]

(1) Company name and address.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(1)]

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(2)]

(3) Date of report and beginning and ending dates of the reporting period.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(3)]

(4) If there are no deviations from any applicable emission limitation and there are no deviations from the requirements for applicable work practice standards, a statement that there were no deviations from the emission limitations or work practice standards during the reporting period and that no continuous emission monitoring system was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(c)(4)]

d. For each deviation from an emission limitation and for each deviation from the requirements for work practice standards, the compliance report required by Condition XIV.D.9.a must contain the following information:
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)]

(1) The total operating time of each affected source during the reporting period.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(1)]

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(2)]

(3) Information on the number, duration, and cause for monitor downtime incidents (including unknown cause, if applicable, other than downtime associated with zero and span and other daily calibration checks).[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(d)(3)]

e. For each deviation from the emission limitation in Condition XIV.B.2.a, the compliance report required by Condition XIV.D.9.a must include the information in Conditions XIV.D.9.d(1) through XIV.D.9.d(3) and the information in Conditions XIV.D.9.e(1) through XIV.D.9.e(13).
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)]

(1) The date and time that each malfunction started and stopped.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(1)]

(2) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(2)]

(3) The date and time that each continuous emission monitoring system was out-of-control, including the information in 40 CFR 63.8(c)(8).
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(3)]

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(4)]

(5) A summary of the total duration of the deviation during the reporting period (recorded in hours for gases and in the averaging period specified in the regulation for other types of emission limitations), and the total duration as a percent of the total source operating time during that reporting period.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(5)]

(6) A breakdown of the total duration of the deviations during the reporting period and into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(6)]

(7) A summary of the total duration of downtime for the continuous emission monitoring system during the reporting period (recorded in hours), and the total duration of downtime for the continuous emission monitoring system as a percent of the total source operating time during that reporting period.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(7)]

(8) A breakdown of the total duration of downtime for the continuous emission monitoring system during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, quality assurance/quality control calibrations, other known causes, and other unknown causes.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(8)]

(9) An identification of each HAP that was monitored at the affected source.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(9)]

(10) A brief description of the process units.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(10)]

(11) The monitoring equipment manufacturer(s) and model number(s).
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(11)]

(12) The date of the latest certification or audit for the continuous emission monitoring system.
[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(12)]

(13) A description of any change in the continuous emission monitoring system, processes, or controls since the last reporting period.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(e)(13)]

f. Compliance reports required by Condition XIV.D.9.a shall contain, if applicable, a copy of any performance test done during the reporting period on the affected unit. The report may be included in the next semiannual report. The copy must include a complete report for each test method used. A complete test report contains a brief process description; a simplified flow diagram showing affected processes, control equipment, and sampling point locations; sampling site data; description of sampling and analysis procedures and any modifications to standard procedures; quality assurance procedures; record of operating conditions during the test; record of preparation of standards; record of calibrations; raw data sheets for field sampling; raw data sheets for field and laboratory analyses; documentation of calculations; and any other information required by the test method.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(f)(1)]

g. Compliance reports required by Condition XIV.D.9.a shall include information pertaining to startups, shutdowns, and malfunctions, in accordance with the following:

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)]

(1) When actions taken to respond are consistent with the startup, shutdown, and malfunction plan, the Permittee is not required to report these events in the compliance report and the reporting requirements in 40 CFR part 63, subpart A, §§63.6(e)(3)(iii) and 63.10(d)(5) do not apply.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)(1)]

(2) When actions taken to respond are not consistent with the startup, shutdown, and malfunction plan, the Permittee shall report these events and the response taken in the compliance report. In this case, the reporting requirements in 40 CFR part 63, subpart A, §§63.6(e)(3)(iv) and 63.10(d)(5) do not apply.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1575(h)(2)]

10. Notification of Compliance Status for VOC Emission Standard

a. The Permittee shall submit a Notification of Compliance Status report within 150 days after the date of the initial startup of the Rich Amine Three Phase Separator or the Sour Water Flash Drum, whichever occurs earlier.

(1) This information may be submitted in an amendment to an operating permit application, in a separate submittal, or in a combination thereof. If the required information has been submitted before the date 150 days after the date of the initial startup of the Rich Amine Three Phase Separator or the Sour Water Flash Drum, whichever occurs earlier, a separate Notification of Compliance Status report is not required.

(2) If the Permittee submits the information specified in Conditions XIV.D.10.b through XIV.D.10.e at different times, or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the previously submitted information.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(f)}]

b. The Notification of Compliance Status report required by Condition XIV.D.10.a shall include identification of each miscellaneous process vent subject to Condition XIV.B.3.a, whether the process vent is Group 1 or Group 2, and the method of compliance for each process vent.
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(ii)}]

c. The Notification of Compliance Status report required by Condition XIV.D.10.a shall include performance test results including the information in Conditions XIV.D.10.c(1) and XIV.D.10.c(2).
[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(iii)}]

(1) The percentage of reduction of TOC, or the outlet concentration of TOC (ppmvd, corrected to 3 percent oxygen), determined in accordance with Condition XIV.E.2.b; and
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(iii)(A)}]

(2) The Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature, averaged over the full period of the performance test.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(iii)(A)}]

d. The Notification of Compliance Status report required by Condition XIV.D.10.a shall include a complete test report for the performance test required by Condition XIV.E.2. A complete test report shall include a sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(2)(ii)}]

e. The Notification of Compliance Status report required by Condition XIV.D.10.a shall include the information in Conditions XIV.D.10.e(1) and XIV.D.10.e(2).
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(3)}]

(1) The minimum Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature established pursuant to Condition XIV.E.4.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(3)(i)}]

(2) The rationale for the minimum Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature, including any data and calculations used to establish the temperature value and a description

of why the value ensures compliance with the VOC emission standard under Condition XIV.B.3.a.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(3)(ii)}]

f. The Notification of Compliance Status report required by Condition XIV.D.10.a shall include the results of any continuous monitoring system performance evaluations.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(4)}]

11. Reporting for VOC and Reduced Sulfur Compounds Emission Standards

a. The Permittee shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in Condition XIV.D.5.c occur.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(1) The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted pursuant to Condition XIV.D.10.a.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(2) A Periodic Report is not required if none of the compliance exceptions specified in Condition XIV.D.5.c occurred during the 6-month period.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(3) The Permittee may submit reports required by other regulations in place of or as part of the Periodic Report required by Condition XIV.D.11.a if the reports contain the information required by Condition XIV.D.11.a(4).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(4) Periods of excess emissions as defined in Condition XIV.D.5.c shall be identified in the Periodic Reports.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)(6)}]

b. Other reports shall be submitted as specified in subpart A of 40 CFR part 63.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)}]

E. Testing Requirements

1. The Permittee shall determine initial compliance with the SO_2 standard in Condition XIV.B.2.a as follows:

a. The Permittee shall conduct the initial performance test required by 40 CFR 60.8(a) in accordance with Conditions XIV.E.1.b and XIV.E.1.c.

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(a) and A.A.C. R18-2-901(1) {40 CFR 60.8(a)}]

b. The initial performance test shall be completed, and the results reported, subject to the deadlines in Conditions XIV.E.1.b(1) and XIV.E.1.b(2).

(1) The initial performance test shall be performed within 60 days after achieving the maximum production rate at which the Sulfur Recovery Plant will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}]

(2) The Permittee shall conduct each performance test and shall report the results by no later than 150 calendar days after initial startup of the Sulfur Recovery Plant and according to the provisions in 40 CFR 63.7(a)(2).

[A.A.C. R18-2-1101(B)(58), 40 CFR 63.1571(a)]

c. The following test methods and procedures shall be used to determine compliance with the SO_2 standard in Condition XIV.B.2.a:

[A.A.C. R18-2-901(14) {40 CFR 60.106(f)}]

(1) Method 6 shall be used to determine the SO_2 concentration.

(a) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(b) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 m^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(c) The sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf) for each sample.

(d) Eight samples of equal sampling times shall be taken at about 30-minute intervals. The arithmetic average of these eight samples shall constitute a run.

(e) For Method 6C, a run shall consist of the arithmetic average of four 1-hour samples.

[A.A.C. R18-2-901(14) {40 CFR 60.106(f)(1)}]

(2) Method 4 shall be used to determine the moisture content of the gases.

(a) The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

(b) The sampling time for each sample shall be equal to the time it takes for two Method 6 samples. The moisture content from this sample shall be used to correct the corresponding Method 6 samples for moisture.

[A.A.C. R18-2-901(14) {40 CFR 60.106(f)(1)}]

(3) The oxygen concentration used to correct the emission rate for excess oxygen shall be obtained by the integrated sampling and analysis procedure of Method 3 or 3A. The samples shall be taken simultaneously with the SO_2 or moisture samples.

[A.A.C. R18-2-901(14) {40 CFR 60.106(f)(3)}]

(4) The pollutant concentration for each SO_2 sample shall be corrected to 0.0 percent oxygen using the following equation:

$$C_{adj}=C_{meas}\ [20.9c \div (20.9 - \%O_2)]$$

where:

C_{adj}	=	pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm
C_{meas}	=	pollutant concentration measured on a dry basis, ppm or g/dscm
20.9c	=	20.9 percent oxygen - 0.0 percent oxygen (defined oxygen correction basis), percent
20.9	=	oxygen concentration in air, percent
$\%O_2$	=	oxygen concentration measured on a dry basis, percent

[A.A.C. R18-2-901(14) {40 CFR 60.106(f)(3) and 40 CFR 60.106(h)(6)}]

2. The Permittee shall determine initial compliance with the VOC emission standard in Condition XIV.B.3.a as follows:

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a)}]

a. The Permittee shall conduct a performance test and shall report the results by no later than 150 calendar days after initial startup of the Amine Regeneration Unit or Sour Water Stripper, whichever occurs first.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a) & 40 CFR 63.654(f); 40 CFR 63.116(c) by ref.}]

b. The Permittee shall conduct the performance test required by Condition XIV.E.2.a using the test methods and procedures in Conditions XIV.E.2.b(1) through XIV.E.2.b(5).

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c) by ref.}]

(1) Compliance shall be based on measurements of TOC, minus methane and ethane, as determined according to the procedures specified in Conditions XIV.E.2.b(2) through XIV.E.2.b(5).

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c) by ref.}]

(2) Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, shall be used for selection of the sampling sites.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(1) by ref.}]

(a) For determination of compliance with the 98 percent VOC reduction requirement, sampling sites shall be located at the inlet of the control device (but after the final product recovery device, if applicable) and at the outlet of the control device.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(1)(i) by ref.}]

(b) For determination of compliance with the 20 ppmvd concentration limit, the sampling site shall be located at the outlet of the control device.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(1)(ii) by ref.}]

(3) The gas volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D of appendix A to 40 CFR part 60, as appropriate.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(2) by ref.}]

(4) To determine compliance with the 20 ppmvd concentration limit, the Permittee shall use Method 18 of appendix A to 40 CFR part 60 to measure TOC minus methane and ethane. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A of 40 CFR part 63, may be used, subject to the prior approval of the Director. The following procedures shall be used to calculate ppmvd concentration, corrected to 3 percent oxygen:

(a) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at approximately equal intervals in time, such as 15 minute intervals during the run.

(b) The concentration of TOC (minus methane and ethane) ("C_{TOC}") shall be calculated as the sum of the concentrations of the individual components and shall be computed for each run using the following equation:

$$C_{TOC} = \sum_{i=1}^{x} \frac{\left(\sum_{j=1}^{n} C_{ji} \right)}{x}$$

where:

C_{TOC} = Concentration of TOC (minus methane and ethane), ppmvd.

C_{ji}= Concentration of sample components j of sample i, dry basis, ppmv.

n = Number of components in the sample.

x = Number of samples in the sample run.

(c) The concentration of TOC (minus methane and ethane) shall be corrected to 3 percent oxygen.

1) The emission rate correction factor or excess air, integrated sampling and analysis procedures of Method 3B of appendix A to 40 CFR part 60 shall be used to determine the oxygen concentration ("$\%O_{2d}$"). The samples shall be taken during the same time that the TOC (minus methane and ethane) samples are taken.

2) The concentration corrected to 3 percent oxygen ("C_c") shall be computed using the following equation:

$$C_c = C_m\left(\frac{17.9}{20.9 - \%O_{2d}}\right)$$

where:

C_c = Concentration of TOC corrected to 3 percent oxygen, dry basis, ppmv.

C_m = Concentration of TOC (minus methane and ethane), ppmvd.

$\%O_{2d}$ = Concentration of oxygen, dry basis, percent by volume.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(3) by ref.}]

(5) To determine compliance with the 98 percent VOC reduction requirement, the Permittee shall use Method 18 of appendix A to 40 CFR part 60. Alternatively, any other method or data that has been validated according to the applicable procedures in Method 301 of appendix A to 40 CFR part 63 may be used subject to the prior approval of the Director. The following procedures shall be used to calculate percent reduction efficiency:

(a) The minimum sampling time for each run shall be 1 hour in which either an integrated sample or a minimum of four grab samples shall be taken. If grab sampling is used, then

the samples shall be taken at approximately equal intervals in time such as 15 minute intervals during the run.

(b) The mass rate of TOC (minus methane and ethane) (E_i, E_o) shall be computed.

1) The following equations shall be used:

$$E_i = K_2\left(\sum_{j=1}^{n} C_{ij}M_{ij}\right)Q_i$$

$$E_0 = K_2\left(\sum_{j=1}^{n} C_{0j}M_{0j}\right)Q_0$$

where:

C_{ij}, C_{oj} = Concentration of sample component j of the gas stream at the inlet and outlet of the control device, respectively, ppmvd.

E_i, E_o = Mass rate of TOC (minus methane and ethane) at the inlet and outlet of the control device, respectively, dry basis, kilogram per hour.

M_{ij}, M_{oj} = Molecular weight of sample component j of the gas stream at the inlet and outlet of the control device, respectively, gram/gram-mole.

Q_i, Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dry standard cubic meter per minute.

K_2 = Constant, 2.494×10^{-6} (parts per million)$^{-1}$ (gram-mole per standard cubic meter) (kilogram/gram) (minute/hour), where standard temperature (gram-mole per standard cubic meter) is 20 ºC.

2) When calculating the mass rate of TOC, all organic compounds (minus methane and ethane) measured

by Method 18 of appendix A to 40 CFR part 60 are summed using the equations in Condition XIV.E.2.b(5)(b)(1).

(c) The percent reduction in TOC (minus methane and ethane) shall be calculated as follows:

$$R = \frac{E_i - E_0}{E_i}(100)$$

where:

R = Control efficiency of control device, percent.

E_i = Mass rate of TOC (minus methane and ethane) at the inlet to the control device as calculated under Condition XIV.E.2.b(5)(b), kilograms per hour.

E_o = Mass rate of TOC (minus methane and ethane) at the outlet of the control device, as calculated under Condition XIV.E.2.b(5)(b), kilograms per hour.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.645(a); 40 CFR 63.116(c)(4) by ref.}]

3. Reduced Sulfur Compounds Performance Test

The Permittee shall perform an initial performance test to determine the rate of emissions of reduced sulfur compounds from the Sulfur Recovery Plant Thermal Oxidizer.

a. The reduced sulfur compounds performance test shall be performed using EPA Reference Method 15.

[A.A.C. R18-2-406(A)(4)]

b. The reduced sulfur compounds performance test shall be completed and the results reported by no later than 150 calendar days after initial startup of the Sulfur Recovery Plant.

[A.A.C. R18-2-406(A)(4)]

4. Sulfur Recovery Plant Thermal Oxidizer Operating Parameters

The Permittee shall establish a minimum Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature and a maximum Sulfur Recovery Plant Thermal Oxidizer volumetric flow rate in accordance with Conditions XIV.E.4.a through XIV.E.4.c.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(d)}]

a. The Permittee shall monitor and record the Sulfur Recovery Plant Thermal Oxidizer combustion chamber temperature during the entire period of the

VOC performance test required by Condition XIV.E.2.a and the reduced reduced sulfur compounds performance test required by Condition XIV.E.3.

[A.A.C. R18-2-406(A)(4)]

b. Based on the temperature data recorded pursuant to Condition XIV.E.4.a, the Permittee shall establish a minimum temperature value that ensures compliance with the VOC emission standard in Condition XIV.B.3.a and with the reduced sulfur compounds emission standard in Condition XIV.B.4.a.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.644(d)}]

c. In establishing the minimum temperature value in Condition XIV.E.4.b, the Permittee may supplement the temperature and flow rate data recorded pursuant to Condition XIV.E.4.a with engineering assessments and manufacturer's recommendations.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.654(f)(3)(ii)}]

d. Based on engineering calculations taking into account the volume of the Sulfur Recovery Plant Thermal Oxidizer combustion chamber, the Permittee shall determine the maximum exhaust gas volumetric flow rate that corresponds to a minimum residence time of 0.75 seconds. This exhaust gas volumetric flow rate shall be considered the maximum flow rate for the purposes of Conditions XIV.B.3.c and XIV.B.4.d.

[A.A.C. R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(1), R18-2-901(14), R18-2-901(17), R18-2-1101(B)(23); 40 CFR part 63 subpart UUU.

[A.A.C. R18-2-325]

XV. HYDROGEN PLANT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Hydrogen Reformer Heater (B-07200)	Natural gas or RFG-fired, 1,435 MMBtu/hr heat input (HHV)	Low-NO_X burners and SCR	EP-7
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Hydrogen Reformer Heater any fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to the Hydrogen Reformer Heater to exceed 1,435 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Hydrogen Reformer Heater any fuel which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Hydrogen Reformer Heater any fuel which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

[A.A.C. R18-2-406(A)(4)]

3. Particulate Matter Emission Standards

The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Nitrogen Oxides Emission Standards

a. Initial NO_X limit

For the first 24 months of operation, starting on the date of initial startup of each affected heater, the Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain NO_X in excess of 0.0125 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average. The limit imposed under this Condition shall be referred to herein as the "initial NO_X limit."

[A.A.C. R18-2-406(A)(4)]

b. Revised NO_X limit

After the first 24 months of operation, the Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain NO_X in excess of the emission rate limit determined in accordance with Conditions XV.B.4.b(1) through XV.B.4.b(4). The limit established under this Condition shall be referred to herein as the "revised NO_X limit."

[A.A.C. R18-2-406(A)(4)]

(1) The revised NO_X limit for the Hydrogen Reformer Heater shall be expressed in units of lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

(2) In lieu of establishing a revised NO_X limit pursuant to Conditions XV.B.4.b(3) through XV.B.4.b(4), the Permittee may accept a revised NO_X limit of 0.006 lb per MMBtu heat input. If the Permittee elects this compliance option, no demonstration study is required, and the Permittee shall demonstrate compliance with the revised NO_X limit beginning 24 months after the date of initial startup of the Hydrogen Reformer Heater.

[A.A.C. R18-2-406(A)(4)]

(3) Except as provided by Condition XV.B.4.b(2), the Permittee shall conduct an SCR performance demonstration study for the Hydrogen Reformer Heater and shall submit to the Director a report documenting the results of such study. The report shall include the revised NO_X limit proposed by the Permittee.

[A.A.C. R18-2-406(A)(4)]

(a) The SCR performance demonstration study shall be submitted to the Director within 21 months after the date of initial startup of the Hydrogen Reformer Heater.

[A.A.C. R18-2-406(A)(4)]

(b) The SCR performance demonstration study report submitted in accordance with Condition XV.B.4.b(3)(a) shall be

considered to be an application for a significant permit revision pursuant to A.A.C. R18-2-320 and shall conform to the requirements for permit applications established in A.A.C. R18-2-304.

[A.A.C. R18-2-406(A)(4)]

(c) If the Permittee fails to submit an SCR performance demonstration study in accordance with Condition XV.B.4.b(3)(a), the Permittee shall be deemed to have accepted a revised NO_X limit pursuant to Condition XV.B.4.b(2).

[A.A.C. R18-2-406(A)(4)]

(d) The revised NO_X limit proposed in the study report submitted pursuant to Condition XV.B.4.b(3)(a) shall represent the limit at which continuous compliance can be reasonably anticipated, based upon a statistical analysis of data collected by the NO_X and ammonia continuous emissions monitoring system required by Condition I.D.3.a. Data collected during the first sixty days of heater operation and during periods of startup, shutdown, malfunction, or noncompliance shall not be considered this analysis. The statistical analysis procedure used shall yield a one-sided (upper) tolerance limit, with 99 percent confidence that 99 percent of the valid data will indicate compliance during periods of normal operation.

[A.A.C. R18-2-406(A)(4)]

(e) For any affected heater for which the Permittee conducts an SCR performance demonstration study pursuant to Condition XV.B.4.b(3), the Permittee shall demonstrate compliance with revised NO_X limit proposed in the study report submitted pursuant to Condition XV.B.4.b(3)(a) beginning 24 months after the date of initial startup of the heater. No revision to the permit shall be required before this applicable requirement takes effect.

[A.A.C. R18-2-406(A)(4)]

(4) For any affected heater for which the Permittee submits an SCR performance demonstration study report pursuant to Condition XV.B.4.b(3)(a), the Director will establish a revised NO_X limit based on the results of the SCR performance demonstration study.

[A.A.C. R18-2-406(A)(4)]

(a) The revised NO_X limit will be incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day U.S. EPA review period per A.A.C. R18-2-320.D.

[A.A.C. R18-2-406(A)(4)]

(b) If the Director approves the NO_X limit proposed by the Permittee in the study report submitted pursuant to Condition XV.B.4.b(3)(a), the revised NO_X limit will be equal to the proposed NO_X limit. If the Director disapproves the proposed NO_X limit, the revised NO_X limit incorporated into the permit pursuant to Condition XV.B.4.b(4)(a) may be different from the proposed NO_X limit.

[A.A.C. R18-2-406(A)(4)]

5. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain CO in excess of 0.01 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Ammonia Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain ammonia in excess of 5.0 ppmv, corrected to 0.0 percent oxygen, based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

7. Organic HAP Emission Standard

a. Except as provided in Condition XV.B.7.b, the Permittee shall not cause or allow to be emitted to the atmosphere from the Hydrogen Reformer Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

b. The carbon monoxide work practice standard in Condition XV.B.7.a shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

d. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

e. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

f. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

8. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

At all times when the Hydrogen Reformer Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_x burners and the selective catalytic reduction system in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Hydrogen Reformer Heater in accordance with the following:

a. For each hour of operation, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition XV.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Hydrogen Reformer

Heater. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition XV.B.2.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition XV.B.2.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XV.D.2.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XV.D.2.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition XV.D.2.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition XV.D.2.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Hydrogen Reformer Heater in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

3. Monitoring for NO_X, CO, O_2, and Ammonia

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, O_2, and ammonia in gases emitted to the atmosphere from the Hydrogen Reformer Heater.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

b. Performance Specifications

(1) The NO_X continuous emission monitoring systems shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring systems shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring systems shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

(4) The ammonia continuous emission monitoring system shall be maintained and operated in accordance with performance specifications to be established in a monitoring plan approved by the Director pursuant to Condition XV.D.4.b.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition XV.D.3.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26 $\times 10^{-8}$ to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition XV.D.4.b.

d. Compliance with the NO_X, CO, and ammonia emission limitations in Conditions XV.B.4 through XV.B.6, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition XV.D.3.a.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

e. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition XV.D.3.a exceeds the emission standard in Condition XV.B.4.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition XV.D.3.a exceeds the emission standard in Condition XV.B.5.

(3) All 3-hour periods for which the ammonia emission rate to the atmosphere as determined in accordance with Condition XV.D.3.a exceeds the emission standard in Condition XV.B.6.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

f. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

4. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions XV.D.2.a and XV.D.3.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include proposed performance specifications for the ammonia continuous emission monitoring system substantially equivalent to those set forth in Performance Specification 5 in appendix B to 40 CFR part 60.

(2) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(3) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition XV.D.3.c(2).

(4) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition XV.E.2 is conducted.

(5) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain a continuous emission monitoring system for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Hydrogen Reformer Heater. The CO continuous emission monitoring system required by Condition XV.D.3.a may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) The continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition XV.D.5.b.

[40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) The continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected heater. The Permittee shall not use data recorded during periods when the affected heater is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected heater is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For the continuous emission monitoring system required by Condition XV.D.5.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval the site-specific monitoring plan required by Condition XV.D.5.b. The Permittee shall submit the site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition XV.D.5.c.

[40 CFR 63.7505(d)(1)]

(2) The site-specific monitoring plan required by Condition XV.D.5.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected heater such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations). [40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii); [40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. The Permittee shall conduct a performance evaluation of the continuous emission monitoring system in accordance with the site-specific monitoring plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Hydrogen Reformer Heater, the Permittee shall demonstrate initial compliance with the work practice standard in Condition XV.B.7.a no later than 180 days after startup. The initial compliance demonstration is the performance evaluation required by Condition XV.D.5.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For the continuous emission monitoring system required by Condition XV.D.5.a, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions XV.D.6 and XV.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of compliance demonstrations and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(5) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(6) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(7) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(8) Records of all monitoring data and calculated averages for carbon monoxide to show continuous compliance with the work practice standard in Condition XV.B.7.a.

[40 CFR 63.7555(c)]

(9) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(10) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition XV.B.7.a. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For the initial compliance demonstration required by Condition XV.D.5.d, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions XV.D.6.c(1) through XV.D.6.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, and description of the fuel(s) burned. [40 CFR 63.7545(e)(1)]

(2) Summary of the results of all calculations conducted to demonstrate initial compliance. [40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data to show that the work practice standard in Condition XV.B.7.a has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition XV.B.7.a was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions XV.D.7.a through XV.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions XV.D.7.b(2)(a) through XV.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(e) If there are no deviations from the work practice standard in Condition XV.B.7.a, a statement that there were no deviations from the work practice standards during the reporting period.

[40 CFR 63.7550(c)(10)]

(f) If there were no periods during which the continuous emission monitoring system was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition XV.B.7.a, the compliance report shall contain the information required by Conditions XV.D.7.b(3)(a) through (l). This includes periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition XV.D.5.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that the continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that the continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup,

shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected heater during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected heater for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the heater for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of the continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the heater for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions XV.D.5 or XV.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions XV.E.2 and XV.E.3. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) as follows:

a. Except as provided by Condition XV.E.2.b, the Permittee shall determine compliance with Condition XV.B.2.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition XV.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition XV.B.2.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. Particulate Matter Performance Tests

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the Hydrogen Reformer Heater. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

XVI. GROUP "A" STORAGE TANKS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42109 (T-42109)	Dome-roof storage tank: 2,835,000 gallons storage capacity, storing natural gasoline or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 42110 (T-42110)	Dome-roof storage tank: 2,835,000 gallons storage capacity, storing natural gasoline or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 42213 (T-42213)	Dome-roof storage tank: 3,780,000 gallons storage capacity, storing coker feedstock or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 42311 (T-42311)	Dome-roof storage tank: 1,903,758 gallons storage capacity, storing isomerate or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 42312 (T-42312)	Dome-roof storage tank: 1,903,758 gallons storage capacity, storing isomerate or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 42313 (T-42313)	Dome-roof storage tank: 1,903,758 gallons storage capacity, storing light naphtha or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 43015 (T-43015)	Dome-roof storage tank: 1,512,000 gallons storage capacity, storing slop oil or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable
Tank 43016 (T-43016)	Dome-roof storage tank: 1,512,000 gallons storage capacity, storing slop oil or other petroleum liquids	Closed-vent system routed to compression system and RFG system.	Not applicable

B. Emission Limits and Standards

1. The Permittee shall design, install, operate, and maintain a closed-vent system to collect the emissions from each of the Group "A" Storage Tanks and route the emissions to a vapor compression system.

   [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(a)(2) by ref.}; A.A.C. R18-2-331(A)(3)(d) & (e); R18-2-406(A)(4)]

2. The closed-vent system and vapor compression system shall be designed and operated in accordance with the following specifications:

   a. The closed-vent system shall collect all VOC and organic HAP vapors and gases discharged from each Group "A" Storage Tank.

      [A.A.C. R18-2-406(A)(4)]

   b. The closed-vent system shall be gas-tight, constructed of hard piping, and designed to operate with no emissions.

      [A.A.C. R18-2-406(A)(4)]

   c. Any tank gauging or sampling device on a tank, vented to the closed-vent system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling procedures. All pressure-vacuum valves shall be constructed and maintained in a gas-tight condition except when operation pressure exceeds the valve release setting.

      [A.A.C. R18-2-406(A)(4)]

3. All Group "A" Storage Tank emissions collected in the vapor compression system shall be routed to the RFG system.

   [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(a)(2) by ref.}; A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

4. The compression system and RFG system shall be operating at all times when VOC or organic HAP emissions from a Group "A" Storage Tank are routed to them except as provided in Conditions XVI.B.5 and XVI.B.6. Whenever the vapor compression system or RFG system is bypassed, the Permittee shall comply with the recordkeeping requirement in Condition XVI.D.5.

   [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646; 63.119(f)(3) by ref.}; A.A.C. R18-2-406(A)(4)]

5. The provisions of Section XVI.B shall apply at all times except during periods of start-up or shutdown (as defined in 40 CFR 63.641), malfunction, or non-operation of the storage tank resulting in cessation of the emissions to which the provisions of Section XVI.B apply.

   [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(f)(3) by ref.}]

6. Bypassing is permitted if the Permittee complies with one or more of the conditions specified in Conditions XVI.B.6.a through XVI.B.6.c.

   [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(f)(3) by ref.}]

   a. The liquid level in the storage tank is not increased;

      [A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(f)(3)(i) by ref.}]

b. The emissions are routed through a closed-vent system to a control device complying with 40 CFR 63.119(e); or

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(f)(3)(ii) by ref.}]

c. The total aggregate amount of time during which the emissions bypass the RFG system during the calendar year without being routed to a control device, for all reasons (except start-ups/shutdowns/malfunctions or product changeovers of flexible operation units and periods when the storage tank has been emptied and degassed), does not exceed 240 hours.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(f)(3)(iii) by ref.}]

7. Tank Degassing and Cleaning

[A.A.C. R18-2-406(A)(4)]

a. Except as provided by Condition XVI.B.7.f, where any Group "A" Storage Tank shall be opened to the atmosphere, the Permittee shall not allow cleaning or degassing unless the emissions are controlled by one of the following:

(1) Negative pressure displacement and subsequent incineration in a manner approved by the Director.

(2) A refrigerated condenser which reduces the vapor temperature to -100 ºF or lower, and capable of handling the displaced vapors.

(3) Any other control method or control equipment that has been approved by the Director or designee to be at least 90 percent efficient in reducing VOC emissions.

b. Equipment used in the cleaning or degassing process shall be free of liquid and vapor leaks. This includes, but is not limited to: the degassing equipment, vacuum truck, pumps, hoses, and connections.

c. Except for emergency cases, the Permittee shall notify the Director or designee by telephone during normal business hours and receive authorization at least one (1) day and no more than ten (10) days prior to the start of the emptying operation for the purpose of cleaning or degassing any storage tank subject to the requirements of Condition XVI.B.7.a.

d. Degassing of any storage tank subject to the requirements of Condition XVI.B.7.a shall be done in the following manner:

(1) Air Displacement - The displaced gas shall remain vented to the refrigerated vapor condenser, or equivalent control system, for a length of time determined by the following relationship:

$$t = \frac{2.3\ V}{Q}$$

Where:

t = time (hrs)
V = volume of the gas to be freed (ft^3)
Q = flow rate through condenser (ft^3/hr); or

(2) Liquid Displacement - The displaced gas shall remain vented to the control equipment until 90 percent of the vapor volume in the tank is displaced by an equal volume of the liquid into the control equipment.

e. Any condensed liquids shall be handled or disposed of in a manner previously approved by the Director.

f. The requirements of Condition XVI.B.7.a shall not apply to the cleaning or degassing of any Group "A" Storage Tank that stores a liquid with a Reid vapor pressure less than 134 mm Hg (2.6 psi).

8. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII.

C. Air Pollution Control Equipment

At all times when any of the Group "A" Storage Tanks is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the hard-pipe collection system and vapor compression system in a manner consistent with good air pollution control practice for minimizing VOC and organic HAP emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. In accordance with 40 CFR 63.654(f), the Permittee shall submit a Notification of Compliance Status report within 150 days after initial start-up. This report shall include identification of each Group "A" Storage Tank subject to 40 CFR 63.646 and the method of compliance.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(i)(A)}]

2. Other reports shall be submitted as specified in 40 CFR part 63 subpart A as follows:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)}]

a. Reports of startup, shutdown, and malfunction required by 40 CFR 63.10(d)(5). For purposes of this Condition, startup and shutdown shall have

the meaning defined in 40 CFR 63.641, and malfunction shall have the meaning defined in 40 CFR 63.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(1)}]

b. Notifications of inspections as specified in Conditions XVI.D.2.b(1) and XVI.D.2.b(2).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)}]

(1) In order to afford the Director the opportunity to have an observer present, the Permittee shall notify the Director of the refilling of each Group "A"Storage Tank that has been emptied and degassed.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)}]

(2) Except as provided in Condition XVI.D.2.b(3), the Permittee shall notify the Director in writing at least 30 calendar days prior to filling or refilling of each storage tank with organic HAP's to afford the Director the opportunity to inspect the storage tank prior to refilling.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)(A)}]

(3) The Director can waive the notification requirements of Condition XVI.D.2.b(2) for all or some storage tanks. The Director may also grant permission to refill storage tanks sooner than 30 days after submitting the notification required by Condition XVI.D.2.b(2) for all storage tanks, or for individual storage tanks on a case-by-case basis.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)(C)}]

3. For the purpose of compliance with the Condition XVI.B.7 (tank degassing and cleaning), the following shall apply:

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

a. When refrigeration is used to comply with the requirements of Condition XVI.B.7.a, the equipment operator shall monitor the condenser temperature and the flow rate into the condenser. Any interruption of service of the equipment must be documented.

b. When carbon adsorption is used to comply with the requirements of Condition XVI.B.7.a, an organic vapor monitor/analyzer approved by the Director shall be installed and operated at any exit of the carbon adsorption device to determine the concentration of hydrocarbon in gases emitted to the atmosphere.

c. Records of storage tank degassing shall be maintained in accordance with Section XIII of Attachment "A" and be made available to the Director upon request. The records shall include, but are not limited to:

(1) Tank capacity and materials stored;

(2) If the degassing is exempt from the requirements of Condition XVI.B.7.a pursuant to Condition XVI.B.7.f, the Reid vapor pressure of the stored liquid;

(3) If the degassing is subject to the requirements of Condition XVI.B.7.a, the following information:

(a) The flow rate and VOC concentration vented to the degassing equipment;

(b) The control efficiency of the degassing equipment; and

(c) The total amount of VOC processed in the degassing equipment.

4. For each Group "A" Storage Tank, the Permittee shall keep readily accessible records showing the dimensions of the storage tank and an analysis showing the capacity of the storage tank. This record shall be kept as long as the storage tank is in operation.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(a) by ref.}]

5. The Permittee, if using the by-pass provisions of Conditions XVI.B.4 through XVI.B.6, shall keep in a readily accessible location the records specified in Conditions XVI.D.5.a through XVI.D.5.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(h) by ref.}]

a. The reason it was necessary to by-pass the process equipment or RFG system;

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(h)(1) by ref.}]

b. The duration of the period when the process equipment or RFG system was by-passed;

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(h)(2) by ref.}]

c. Documentation or certification of compliance with the applicable provisions of Conditions XVI.B.6.a through XVI.B.6.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(h)(3) by ref.}]

6. Except where specified otherwise, all information required to be recorded and/or reported under Condition XVI.D.1 through XVI.D.5 shall be maintained for at least five years.

[A.A.C. R18-2-1101(B)(23) {40 CFR 642(e); 63.654(i)(4)}]

E. Testing Requirements

Except as where otherwise specified in Sections XVI.B or XVI.D or as otherwise provided in Condition XVI.E.1.b, the Permittee shall use the test methods contained or referenced in 40 CFR 63 subpart CC for VOC and HAP emissions, as applicable.

[A.A.C. R18-2-1101(B)(23) (40 CFR 63 subpart CC); R18-2-306(A)(3), R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XVII. GROUP "B" STORAGE TANKS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42215 (T-42215)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing light naphtha or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42217 (T-42217)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing heavy naphtha or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42301 (T-42301)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing ethanol or other organic liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42303 (T-42303)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing ether or other organic liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42305 (T-42305)	Fixed-roof storage tank: 945,000 gallons storage capacity, storing alkylate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42306 (T-42306)	Fixed-roof storage tank: 945,000 gallons storage capacity, storing alkylate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42315 (T-42315)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing reformate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42316 (T-42316)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing reformate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42317 (T-42317)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing reformate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42318 (T-42318)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing reformate or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42401 (T-42401)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42402 (T-42402)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42403 (T-42403)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42404 (T-42404)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42405 (T-42405)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42406 (T-42406)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42407 (T-42407)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42408 (T-42408)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42409 (T-42409)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42410 (T-42410)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing gasoline or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42501 (T-42501)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing jet fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42502 (T-42502)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing jet fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42503 (T-42503)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing jet fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42505 (T-42505)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing Diesel fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42506 (T-42506)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing Diesel fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42507 (T-42507)	Fixed-roof storage tank: 1,890,000 gallons storage capacity, storing Diesel fuel or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 44051 (T-44051)	Fixed-roof storage tank: 378,000 gallons storage capacity, storing recovered petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42101 (T-42101)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42102 (T-42102)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42103 (T-42103)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42104 (T-42104)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42105 (T-42105)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42106 (T-42106)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42107 (T-42107)	Fixed-roof storage tank: 7,560,000 gallons storage capacity, storing crude oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42201 (T-42201)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing naphtha or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42205 (T-42205)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing distillate oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42206 (T-42206)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing distillate oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42207 (T-42207)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing distillate oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42208 (T-42208)	Fixed-roof storage tank: 2,835,000 gallons storage capacity, storing distillate oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42209 (T-42209)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing gas oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 42210 (T-42210)	Fixed-roof storage tank: 3,780,000 gallons storage capacity, storing gas oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43001 (T-43001)	Fixed-roof storage tank: 756,000 gallons storage capacity, storing flushing oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43002 (T-43002)	Fixed-roof storage tank: 1,512,000 gallons storage capacity, storing flushing oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43011 (T-43011)	Fixed-roof storage tank: 756,000 gallons storage capacity, storing slop oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43012 (T-43012)	Fixed-roof storage tank: 756,000 gallons storage capacity, storing slop oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43013 (T-43013)	Fixed-roof storage tank: 378,000 gallons storage capacity, storing slop oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank 43014 (T-43014)	Fixed-roof storage tank: 378,000 gallons storage capacity, storing slop oil or other petroleum liquids	Internal floating roof and closed-vent system routed to thermal oxidizer	EP-16
Tank Farm Thermal Oxidizer (B-42901)	Natural gas or RFG-fired	Not applicable	EP-16

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in the Tank Farm Thermal Oxidizer any auxiliary fuel other than natural gas and RFG.

[A.A.C. R18-2-306(A)(2)]

b. For the purpose of Condition XVII.B.1.a, gases displaced from Group "B" Storage Tanks shall not be considered auxiliary fuel.

[A.A.C. R18-2-306(A)(2)]

2. VOC and Hazardous Air Pollutant Emission Standards for Storage Tanks

a. Each Group "B" Storage Tank shall be equipped with a fixed roof and internal floating roof that shall be floating on the liquid surface at all times except when the floating roof must be supported by the leg supports during the periods specified in Conditions XVII.B.2.a(1) through XVII.B.2.a(3).

[A.A.C. R18-2-406(A)(4)]

(1) During the initial fill.

(2) After the tank has been completely emptied and degassed.

(3) When the tank is completely emptied before being subsequently refilled.

(4) For the purpose of Conditions XVII.B.2.a(2) and XVII.B.2.a(3), tanks in which liquid is left on walls, as bottom clingage, or in pools due to floor irregularity are considered completely empty.

b. When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as soon as practical.

[A.A.C. R18-2-406(A)(4)]

c. Each internal floating roof shall be equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage tank and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous seals.

[A.A.C. R18-2-406(A)(4)]

d. Each internal floating roof shall meet the specifications listed in Conditions XVII.B.2.d(1) through XVII.B.2.d(7).

[A.A.C. R18-2-406(A)(4)]

(1) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents is to provide a projection below the liquid surface.

(2) Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder

wells, sample wells, and stub drains shall be equipped with a cover or lid. The cover or lid shall be equipped with a gasket.

(3) Each penetration of the internal floating roof for the purposes of sampling shall be a sample well. Each sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

(4) Each automatic bleeder vent shall be gasketed.

(5) Each rim space vent shall be gasketed.

(6) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(7) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

e. Each cover or lid on any opening in the internal floating roof shall be closed (i.e., no visible gaps), except when the cover or lid must be open for access. Covers on each access hatch and each gauge float well shall be bolted or fastened so as to be air-tight when they are closed. Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

[A.A.C. R18-2-406(A)(4)]

f. The Permittee shall collect all VOC- and HAP-containing vapors from the head space of each Group "B" Storage Tank in a closed vent system and route them to the Tank Farm Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e); R18-2-406(A)(4); R18-2-1101(B)(23)
{40 CFR 63.646(a); 63.119(a)(2) by ref.}]

g. The Group "B" Storage Tank vapor collection/processing system shall be gas-tight except for the designated exhaust. Any tank gauging or sampling device on a tank, vented to the hard-pipe vapor collection system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling procedures. All pressure-vacuum valves shall be constructed and maintained in a gas-tight condition except when operation pressure exceeds the valve release setting.

[A.A.C. R18-2-406(A)(4)]

h. Tank Degassing and Cleaning

[A.A.C. R18-2-406(A)(4)]

(1) Except as provided by Condition XVII.B.2.h(6), where any Group "B" Storage Tank shall be opened to the atmosphere, the Permittee shall not allow cleaning or degassing unless the emissions are controlled by one of the following:

(a) Liquid balancing which results in a Reid vapor pressure less than 134 mm Hg (2.6 psi).

(b) Negative pressure displacement and subsequent incineration in a manner approved by the Director.

(c) A refrigerated condenser which reduces the vapor temperature to -100 ºF or lower, and capable of handling the displaced vapors.

(d) Any other control method or control equipment that has been approved by the Director or designee to be at least 90 percent efficient in reducing VOC emissions.

(2) Equipment used in the cleaning or degassing process shall be free of liquid and vapor leaks. This includes, but is not limited to: the degassing equipment, vacuum truck, pumps, hoses, and connections.

(3) Except for emergency cases, the Permittee shall notify the Director or designee by telephone during normal business hours and receive authorization at least one (1) day and no more than ten (10) days prior to the start of the emptying operation for the purpose of cleaning or degassing any storage tank subject to the requirements of Condition XVII.B.2.h(1).

(4) Degassing of any storage tank subject to the requirements of Condition XVII.B.2.h(1) shall be done in the following manner:

(a) Air Displacement - The displaced gas shall remain vented to the refrigerated vapor condenser, or equivalent control system, for a length of time determined by the following relationship:

$$t = \frac{2.3\ V}{Q}$$

Where: t = time (hrs)
V = volume of the gas to be freed (ft^3)
Q = flow rate through condenser (ft^3/hr); or

(b) Liquid Displacement - The displaced gas shall remain vented to the control equipment until 90 percent of the vapor volume in the tank is displaced by an equal volume of the liquid into the control equipment.

(5) Any condensed liquids shall be handled or disposed of in a manner previously approved by the Director.

(6) The requirements of Condition XVII.B.2.h(1) shall not apply to the cleaning or degassing of any Group "B" Storage Tank that stores a liquid with a Reid vapor pressure less than 134 mm Hg (2.6 psi).

3. VOC and Hazardous Air Pollutant Emission Standards for Thermal Oxidizer

The Permittee shall design, install, maintain, and operate the Tank Farm Thermal Oxidizer in accordance with Conditions XVII.B.3.a through XVII.B.3.e:

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

a. Tank Farm Thermal Oxidizer Destruction Efficiency

(1) The Tank Farm Thermal Oxidizer shall be designed and operated to reduce inlet emissions of total organic HAP by 95 percent or greater.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(e)(1) by ref.}]

(2) The Tank Farm Thermal Oxidizer shall be designed to achieve a VOC destruction efficiency of 99.9 percent or greater at inlet VOC concentrations in excess of 20,000 ppmv and to achieve a outlet VOC concentration of 20 ppmv or less, corrected to 3.0 percent oxygen, when inlet VOC concentrations are less than 20,000 ppmv.

[A.A.C. R18-2-406(A)(4)]

b. The Tank Farm Thermal Oxidizer shall be designed and operated such that the combustion chamber exhaust gas volumetric flow rate, based on a five-minute average, is equal to or less than the maximum flow rate value established pursuant to Condition XVII.D.1.a(2)(c).

[A.A.C. R18-2-406(A)(4)]

c. The Tank Farm Thermal Oxidizer shall be designed and operated such that the temperature of the gases exiting the combustion chamber, based on a 5-minute average, is at least 1,600 ºF, or the design minimum temperature established pursuant to Condition XVII.D.1.a(2)(d), whichever is greater.

[A.A.C. R18-2-406(A)(4)]

d. Periods of planned routine maintenance of the Tank Farm Thermal Oxidizer, during which the control device does not meet the specifications of Conditions XVII.B.3.a(1) or XVII.B.3.c, shall not exceed 240 hours per year.

[A.A.C. R18-2-406(A)(4) and R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(e)(3) by ref.}]

e. The specifications and requirements in Conditions XVII.B.3.a(1) and XVII.B.3.c do not apply during periods of planned routine maintenance of the Tank Farm Thermal Oxidizer.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.119(e)(4) by ref.}; R18-2-406(A)(4)]

4. Sulfur Dioxide Emission Standards

a. The Permittee shall not cause or allow to be combusted in the Tank Farm Thermal Oxidizer any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

b. The Permittee shall not cause or allow to be combusted in the Tank Farm Thermal Oxidizer any auxiliary fuel which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average. For the purpose of this condition, gases displaced from Group "B" Storage Tanks shall not be considered auxiliary fuel.

[A.A.C. R18-2-406(A)(4)]

5. Particulate Matter Emission Standards

The Permittee shall not cause or allow to be emitted to the atmosphere from the Tank Farm Thermal Oxidizer any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

6. Nitrogen Oxides Emission Standards

The Permittee shall not cause or allow to be emitted to the atmosphere from the Tank Farm Thermal Oxidizer any gases which contain NO_X in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

7. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as identified in Section XXIII.

C. Air Pollution Control Equipment

At all times when any of the Group "B" Storage Tanks is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the closed-vent system and the Tank Farm Thermal Oxidizer in a manner consistent with good air pollution control practice for minimizing VOC and organic HAP emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e); R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. VOC and Organic HAP Compliance Determination Procedures

a. To demonstrate compliance with Conditions XVII.B.3.a(1) and XVII.B.3.a(2), the Permittee shall prepare a design evaluation of the Tank Farm Thermal Oxidizer.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(1) by ref.}; R18-2-306(A)(3), R18-2-406(A)(4)]

(1) The design evaluation shall include specifications, drawings, schematics, and piping and instrumentation diagrams describing the control device design based on accepted engineering principles.

(2) The design evaluation shall address the following vent stream characteristics and control device operating parameters:

(a) Vent stream composition with expected ranges of constituent concentrations for VOC, including a scenario representing the reasonably expected maximum filling rate for Group "B" Storage Tanks.

(b) Design minimum combustion zone residence time. The design minimum combustion zone residence time shall be not less than 0.75 seconds.

(c) Design minimum and maximum flow rates. The design maximum exhaust gas volumetric flow rate shall be based upon the actual combustion zone volume and the design minimum combustion zone residence time addressed in Condition XVII.D.1.a(2)(b).

(d) Design minimum and average temperature in the combustion zone.

(3) The Permittee shall maintain a copy of the design evaluation, readily available for inspection, for the life of the Tank Farm Thermal Oxidizer.

b. The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following monitoring devices:

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(1) A temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 ºC, whichever is greater. The temperature sensor shall be installed at a representative location in the Tank Farm Thermal Oxidizer combustion chamber.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(2) A device for monitoring exhaust gas volumetric flow rate. The device shall be installed at a location that is representative of the volumetric flow rate of the exhaust gas from the Tank Farm Thermal Oxidizer combustion chamber. The device shall meet the specifications and requirements of Performance Specification 6, *Specifications and test procedures for continuous emission rate monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

c. The Permittee shall continuously monitor and record the temperature of the Tank Farm Thermal Oxidizer combustion chamber and the exhaust gas volumetric flow rate from the Tank Farm Thermal Oxidizer. The output of each monitoring system shall be recorded on a circular chart or other permanent format and shall be maintained on site readily available for inspection.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. The Permittee shall submit a monitoring plan containing a description of the monitoring to be performed to ensure that the Tank Farm Thermal Oxidizer is being properly operated and maintained.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(2) by ref.}; R18-2-306(A)(3), R18-2-406(A)(4)]

(1) The monitoring plan shall include a description of the parameter or parameters to be monitored, an explanation of the criteria used for selection of the parameter (or parameters), and the frequency with which monitoring will be performed (e.g., when the liquid level in the storage tank is being raised).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(3) by ref.}; R18-2-306(A)(3); R18-2-406(A)(4)]

(2) The monitoring plan shall include the operating range for each monitoring parameter identified in the monitoring plan. The specified operating range shall represent the conditions for which the control device is being properly operated and maintained.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(3) by ref.}; A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) The monitoring plan shall address and incorporate, at a minimum, the requirements of Conditions XVII.D.1.b and XVII.D.1.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(3) by ref.}; A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

e. The Permittee shall conduct monitoring in accordance with the monitoring plan required by Condition XVII.D.1.d and shall maintain the control device such that the monitored parameters remain within the ranges specified in the monitoring plan.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(5) by ref.}]

f. Each 5-minute block during which the Tank Farm Thermal Oxidizer combustion chamber outlet temperature falls below the minimum temperature in Condition XVII.B.3.c, or during which the Tank Farm Thermal Oxidizer combustion chamber exhaust gas volumetric flow rate exceeds the maximum flow rate in Condition XVII.B.3.b, shall constitute a period of excess emissions.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

g. The Permittee shall perform an annual inspection of the Tank Farm Thermal Oxidizer burner and combustion chamber temperature monitoring system in accordance with manufacturer's recommended procedures.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

h. Each closed vent system shall be inspected as specified in Condition XXIII.B.11 in Section XXIII of Attachment "B." Required inspections shall be done during filling of the storage tank.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.646(a); 63.120(d)(6) by ref.}]

i. For the purpose of compliance with Condition XVII.B.2.h, the Permittee shall perform monitoring and recordkeeping in accordance with the following requirements:

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(1) When refrigeration is used to comply with the requirements of Condition XVII.B.2.h(1), the Permittee shall monitor the condenser temperature and the flow rate into the condenser. Any interruption of service of the equipment must be documented.

(2) When carbon adsorption is used to comply with the requirements of Condition XVII.B.2.h(1), an organic vapor monitor/analyzer approved by the Director shall be installed and operated at any exit of the carbon adsorption device to determine the concentration of hydrocarbon in gases emitted to the atmosphere.

(3) Records of storage tank degassing shall be maintained in accordance with Section XIII of Attachment "A" and be made available to the Director upon request. The records shall include, but are not limited to:

(a) Tank capacity and materials stored;

(b) If the degassing is exempt from the requirements of Condition XVII.B.2.h(1) pursuant to Condition XVII.B.2.h(6), or if liquid balancing is used pursuant to Condition XVII.B.2.h(1)(a), the Reid vapor pressure of the liquid in the tank;

(c) If a control method other than liquid balancing is used to comply with the requirements of Condition XVII.B.2.h(1), the following information:

1) The flow rate and VOC concentration vented to the degassing equipment;

2) The control efficiency of the degassing equipment; and

3) The total amount of VOC processed in the degassing equipment.

2. Monitoring for Fuel Usage

For each hour of operation of the Tank Farm Thermal Oxidizer, the fuels combusted and the heat input shall be monitored and recorded.

[A.A.C. R18-2-306(A)(3)(c)]

3. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stack of the Tank Farm Thermal Oxidizer. The monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-331(A)(3)(c); R18-2-306(A)(3), R18-2-406(A)(4); A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for this monitor are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition XVII.B.4.a shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition XVII.B.4.b shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for this SO_2 monitor under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under

Condition XVII.D.3.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XVII.D.3.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition XVII.D.3.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring system required by Condition XVII.D.3.a, the Permittee may monitor the H_2S concentration of RFG and the sulfur concentration of auxiliary fuel combusted in the Tank Farm Thermal Oxidizer in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

(1) For the purpose of Condition XVII.D.3.d, storage tank off-gases shall not be considered auxiliary fuel.

[A.A.C. R18-2-406(A)(4)]

(2) For the purpose of demonstrating compliance with Condition XVII.B.4.b, no monitoring of sulfur concentration is required for pipeline-quality natural gas used as auxiliary fuel.

[A.A.C. R18-2-406(A)(4)]

(3) For purpose of compliance with Condition XVII.B.4.a, the Administrator of EPA may approve alternate monitoring upon receipt and consideration of written application pursuant to 40 CFR 60.13(i).

[A.A.C. R18-2-901(1) {40 CFR 60.13(i)}]

4. Monitoring of NO_X Emissions

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X and O_2 in gases emitted to the atmosphere from the Tank Farm Thermal Oxidizer.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

c. Compliance with the NO_X emission limitation in Condition XVII.B.6 shall be determined using data from the continuous emission monitoring system required by Condition XVII.D.4.a.

d. The following shall be considered periods of excess emissions:

All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition XVII.D.4.a exceeds the emission standard in Condition XVII.B.6.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

e. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

5. Continuous Emission Monitoring Systems

For each continuous emission monitoring system required by Conditions XVII.D.3.a and XVII.D.4.a, the Permittee shall meet the following requirements:

a. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

b. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

(2) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition XVII.E.2 is conducted.

(3) Upon approval by the Director, the monitoring plan shall be implemented.

c. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

d. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

e. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

f. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

[A.A.C. R18-2-306(A)(3) and R18-2-406(A)(4)]

6. NESHAP Reporting and Recordkeeping Requirements

a. The Permittee shall submit a Notification of Compliance Status report within 150 days after initial start-up. The Notification of Compliance Status report shall include the following information:

(1) Identification of each Group "B" Storage Tank subject to 40 CFR 63.646 and the method of compliance.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(i)(A)}]

(2) A copy of the monitoring plan required by Condition XVII.D.1.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(1)(i)(B) & (C); 63.654(f)(3)(i) & (ii)}]

(3) A definition of the source's operating day for purposes of determining daily average values of monitored parameters. The definition shall specify the times at which an operating day begins and ends.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(f)(3)(iii)}]

b. The Permittee shall submit Periodic Reports no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified

in Conditions XVII.D.6.b(1) and XVII.D.6.b(2) occur. The first 6-month period shall begin on the date the Notification of Compliance Status report is required to be submitted. A Periodic Report is not required if none of the compliance exceptions specified in Conditions XVII.D.6.b(1) and XVII.D.6.b(2) occurred during the 6-month period.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)}]

(1) The Periodic Report shall include the information specified in Conditions XVII.D.6.b(1)(a) and XVII.D.6.b(1)(b) for those planned routine maintenance operations that would require the control device not to meet the requirements of Conditions XVII.B.3.b and XVII.B.3.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)(5)(i)}]

(a) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6 months. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)(5)(i)(A}]

(b) A description of the planned routine maintenance that was performed for the control device during the previous 6 months. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of Conditions XVII.B.3.b and XVII.B.3.c due to planned routine maintenance.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)(5)(i)(B)}]

(2) The Periodic Report shall describe each occurrence when the monitored parameters were outside of the parameter ranges documented in the Notification of Compliance Status report. The description shall include: identification of the control device for which the measured parameters were outside of the established ranges, and causes for the measured parameters to be outside of the established ranges.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(g)(5)(ii)}]

c. Other reports shall be submitted as specified in 40 CFR part 63 subpart A as follows:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)}]

(1) Reports of startup, shutdown, and malfunction required by 40 CFR 63.10(d)(5). For purposes of this condition, startup and shutdown shall have the meaning defined in 40 CFR 63.641, and malfunction shall have the meaning defined in 40 CFR 63.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(1)}]

(2) Notifications of inspections as specified in Conditions XVII.D.6.c(2)(a) through XVII.D.6.c(2)(d).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)}]

(a) In order to afford the Director the opportunity to have an observer present, the Permittee shall notify the Director of the refilling of each Group "B"Storage Tank that has been emptied and degassed.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)}]

(b) Except as provided in Condition XVII.D.6.c(2)(c) and XVII.D.6.c(2)(d), the Permittee shall notify the Director in writing at least 30 calendar days prior to filling or refilling of each storage tank with organic HAPs to afford the Director the opportunity to inspect the storage tank prior to refilling.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)(A)}]

(c) Except as provided in Condition XVII.D.6.c(2)(d), if an internal tank inspection is not planned and the Permittee could not have known about the inspection 30 calendar days in advance of refilling the tank with organic HAPs, the Permittee shall notify the Director at least 7 calendar days prior to refilling of the storage tank. Notification may be made by telephone and immediately followed by written documentation demonstrating why the inspection was unplanned. This notification, including the written documentation, may also be made in writing and sent so that it is received by the Director at least 7 calendar days prior to the refilling.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)(B)}]

(d) The Director can waive the notification requirements of Condition XVII.D.6.c(2)(b) for all or some storage tanks. The Director may also grant permission to refill storage tanks sooner than 30 days after submitting the notification required by Condition XVII.D.6.c(2)(b) for all storage tanks, or for individual storage tanks on a case-by-case basis.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(h)(2)(i)(C)}]

d. For each Group "B" Storage Tank, the Permittee shall keep readily accessible records showing the dimensions of the storage tank and an analysis showing the capacity of the storage tank. This record shall be kept as long as the storage tank is in operation.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(a) by ref.}]

e. The Permittee shall keep in a readily accessible location the records specified in Conditions XVII.D.6.e(1) and XVII.D.6.e(2).

(1) A record of the measured values of the parameters monitored in accordance with Condition XVII.D.1.e.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(f)(1) by ref.}]

(2) A record of the planned routine maintenance performed on the control device including the duration of each time the control device does not meet the specifications of Conditions XVII.B.3.b and XVII.B.3.c due to the planned routine maintenance. Such a record shall include the information specified in Conditions XVII.D.6.e(2)(a) and XVII.D.6.e(2)(b).
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(f)(2) by ref.}]

(a) The first time of day and date the requirements of Conditions XVII.B.3.b and XVII.B.3.c were not met at the beginning of the planned routine maintenance, and
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(f)(2)(i) by ref.}]

(b) The first time of day and date the requirements of Conditions XVII.B.3.b and XVII.B.3.c were met at the conclusion of the planned routine maintenance.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(f)(2)(ii) by ref.}]

(3) Except where specified otherwise, all information required to be recorded and/or reported under Section XVII.D.6 shall be maintained for at least five years.
[A.A.C. R18-2-1101(B)(23) {40 CFR 642(e); 63.654(i)(4)}]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions XVII.E.2 through XVII.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the Group "B" Storage Tanks will be operated, but not later than 180 days after initial startup of Group "B" Storage Tank operations.
[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) for sulfur dioxide emissions from the Tank Farm Thermal Oxidizer as follows:

a. Except as provided by Condition XVII.E.2.b, the Permittee shall determine compliance with Condition XVII.B.4.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at

a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition XVII.D.3.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition XVII.B.4.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. VOC Performance Tests

The Permittee shall perform initial and annual performance tests to verify that the Tank Farm Thermal Oxidizer is designed in accordance with Condition XVII.B.3.a(2). These tests shall be performed using EPA Reference Methods 18, 25, or 25A. As required by Condition XVIII.B in Attachment "A" to this permit, tests shall be conducted during operation at maximum capacity and under representative operational conditions. In addition, if necessary to demonstrate that the thermal oxidizer is properly designed for both high inlet VOC concentration and low inlet VOC concentration, testing shall be performed during periods when the inlet VOC concentration is less than 20,000 ppmv.

[A.A.C. R18-2-406(A)(4)]

4. Particulate Matter Performance Tests

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Tank Farm Thermal Oxidizer. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

[A.A.C. R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(14), A.A.C. R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XVIII. GROUP "D" STORAGE TANKS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42601 (T-42601)	Storage tank: 850,000 gallons storage capacity, storing liquefied petroleum gas or other petroleum liquid	Not applicable	Not applicable
Tank 42602 (T-42602)	Storage tank: 850,000 gallons storage capacity, storing liquefied petroleum gas or other petroleum liquid	Not applicable	Not applicable
Tank 42605 (T-42605)	Storage tank: 850,000 gallons storage capacity, storing butane/butylene or other petroleum liquid	Not applicable	Not applicable
Tank 42606 (T-42606)	Storage tank: 850,000 gallons storage capacity, storing butane/butylene or other petroleum liquid	Not applicable	Not applicable
Tank 42607 (T-42607)	Storage tank: 850,000 gallons storage capacity, storing butane/butylene or other petroleum liquid	Not applicable	Not applicable
Tank 42608 (T-42608)	Storage tank: 850,000 gallons storage capacity, storing butane/butylene or other petroleum liquid	Not applicable	Not applicable
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. All Group "D" Storage Tanks shall be operated as pressure vessels designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.

[A.A.C. R18-2-306.01(A); R18-2-331(A)(3)(a); R18-2-1101(B)(23) (40 CFR 63.641); R18-2-406(A)(4)]

2. For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as identified in Section XXIII.

C. Monitoring, Recordkeeping, and Reporting Requirements

1. The permittee shall maintain records of the operating pressure of each Group "D" Storage Tank. Group "D" Storage Tank operating pressure records shall be maintained in accordance with Condition XIII of Attachment "A"

[A.A.C. R18-2-306(A)(4), R18-2-406(A)(4)]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XIX. GROUP "E" STORAGE TANKS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Tank 42801 (T-42801)	Storage tank: 3.15 million gallons storage capacity, storing asphalt	Particulate matter filter system	EP-28

B. Emission Limits and Standards

1. Within 60 days after achieving the maximum production rate at which Asphalt Storage Tank 42801 will be operated, but not later than 180 days after initial startup of asphalt storage, the Permittee shall not cause to be emitted to the atmosphere from Tank T-42801 any gases with opacity greater than zero (0) percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing.

   [A.A.C. R18-2-901(51) {40 CFR 60.472(c)}]

2. The Permittee shall not cause or allow liquid with a true vapor pressure of 3.5 kPa or greater to be stored in Asphalt Storage Tank 42801.

   [A.A.C. R18-2-306.01(A); R18-2-331(A)(3)(a)]

C. Air Pollution Control Equipment

At all times when the Asphalt Storage Tank (T-42801) is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, cool the exhaust gases to less than 120 ºF and vent them to fiberglass or steel wool filter system for minimizing PM_{10} emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e); R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Asphalt Storage Tank 42801 is exempted from the quarterly reports required under 40 CFR 60.7(c).

   [A.A.C. R18-2-901(51) {40 CFR 60.473(d)}]

2. A certified EPA Reference Method 9 observer shall conduct daily opacity observations on the exhaust vent of the Asphalt Storage Tank 42801 using EPA Reference Method 9 .

   [A.A.C. R18-2-306(A)(3)]

3. The Permittee shall maintain records of all opacity observations conducted on Asphalt Storage Tank 42801 as required by Condition XIX.D.2 in accordance with Section XIII of Attachment "A." Each opacity monitoring record shall include the following, and shall be maintained on site in a format suitable for inspection:

a. Location, date, and time of the observation;

b. The results of the EPA Reference Method 9 observation;

c. The operating conditions existing at the time of the test; and

d. The name of the observer.

[A.A.C. R18-2-306(A)(4)]

4. The Permittee shall monitor and record the temperature of Asphalt Storage Tank 42801exhaust gases at the inlet to the particulate matter filter system no less frequently than once per each consecutive 7 day period. The requirements of this condition shall not apply during consecutive 7 day periods when Asphalt Storage Tank 42801 is not in use.

[A.A.C. R18-2-306(A)(3) & (4)]

5. The Permittee shall maintain records of the liquids stored in Asphalt Storage Tank 42801, the period of storage, and the maximum true vapor pressure of such liquids during the respective storage period.

[A.A.C. R18-2-306(A)(4), R18-2-406(A)(4)]

a. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

(1) For vessels operated above ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature.

(2) The vapor pressure of the stored liquids may be determined using any of the following methods:

(a) Obtained from standard reference texts.

(b) Determined by ASTM D2879-83, 96, or 97.

(c) Measured by an appropriate method approved by the Director.

(d) Calculated by an appropriate method approved by the Director.

6. Tank Dimensions

The Permittee shall keep a readily accessible record showing the dimensions of Asphalt Storage Tank 42801 and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel is in operation.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(1); 63.123(a) by ref.}]

E. Testing Requirements

The Permittee shall determine initial compliance with Condition XIX.B.1 in accordance with Conditions XIX.E.1 and XIX.E.2.

1. The Permittee shall conduct an initial performance test within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

   [A.A.C. R18-2-901(1) {40 CFR 60.8(a)}]

2. EPA Reference Method 9 and the procedures in 40 CFR 60.11 shall be used to determine the opacity from Asphalt Storage Tank 42801.

   [A.A.C. R18-2-901(51) {40 CFR 60.474(c)(5)}]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(51), A.A.C. R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XX. TRUCK AND RAIL CAR LOADING RACKS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Gasoline Product Truck Loading Racks (Y-47201, Y-47202, Y-47203, Y-47301, Y-47302, Y-47303)	45 loading racks, pumping capacity 600 gallons per minute for each	Vapor collection system, Truck Loading Rack Regenerative Adsorption System, and Truck Loading Rack Thermal Oxidizer	EP-17
Gasoline Product Rail Car Loading Racks (Y-46201, Y-46202, Y-46203, Y-46301, Y-46302, Y-46303)	45 loading racks, pumping capacity 600 gallons per minute for each	Vapor collection system, Rail Car Loading Rack Regenerative Adsorption System, and Rail Car Loading Rack Thermal Oxidizer	EP-27
Distillate Product Truck Loading Racks (Y-47601, Y-47701)	15 loading racks, pumping capacity 600 gallons per minute for each, loading distillate products such as jet fuel and diesel fuel	Vapor collection system and Truck Loading Rack Thermal Oxidizer	EP-17
Distillate Product Rail Car Loading Racks (Y-46601, Y-46701)	15 loading racks, pumping capacity 600 gallons per minute for each, loading distillate products such as jet fuel and diesel fuel	Vapor collection system and Rail Car Loading Rack Thermal Oxidizer	EP-27
Truck Loading Rack Regenerative Adsorption System (S-47300)	Regenerative adsorption system serving gasoline loading racks	Truck Loading Rack Thermal Oxidizer	EP-17
Rail Car Loading Rack Regenerative Adsorption System (S-46300)	Regenerative adsorption system serving gasoline loading racks	Rail Car Loading Rack Thermal Oxidizer	EP-27
Truck Loading Rack Thermal Oxidizer (S-47200)	Natural gas or RFG-fired, 12.3 MMBtu/hr heat input (HHV), serving gasoline product and distillate product truck loading racks	Not applicable	EP-17

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Rail Car Loading Rack Thermal Oxidizer (S-46200)	Natural gas or RFG-fired, 12.3 MMBtu/hr heat input (HHV), serving gasoline product and distillate product rail car loading racks	Not applicable	EP-27
LPG Rail Car Loading Racks (Y-46201 and Y-46202)	10 loading racks, designed to operate with no emissions, loading pressurized organic liquids such as LPG and butane	Not applicable	Not applicable
Rail Car Unloading Racks (Y-46102, Y-46103, Y-46104)	13 unloading racks, designed to operate with no emissions, unloading materials such as intermediates and additives	Not applicable	Not applicable
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Standards for Gasoline Product Loading Racks

a. As used in Conditions XX.B.1.b through XX.B.1.i, all terms shall have the meaning given in 40 CFR 63.421, except as noted otherwise.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.421 by ref.}]

b. The Permittee shall ensure that vapors displaced from gasoline cargo tanks during gasoline product loading are processed as follows:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(a) by ref.}; A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

(1) Vapors displaced from gasoline cargo tanks during gasoline product loading shall be collected by a vapor collection system and routed to a regenerative adsorption system as follows: Vapors displaced from loading at the Gasoline Product Truck Loading Rack shall be routed to the Truck Loading Rack Regenerative Adsorption System and vapors displaced from loading at the Gasoline Product Rail Car Loading Rack shall be routed to the Rail Car Loading Rack Regenerative Adsorption System.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(a) by ref.}; A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

(2) No pressure-vacuum vent in a vapor collection system used to comply with Condition XX.B.1.b(1) shall begin to open at a system pressure less than 460 mm H_2O (18 in. H_2O).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(i) by ref.}; A.A.C. R18-2-406(A)(4)]

(3) Each regenerative adsorption system used to comply with Condition XX.B.1.b(1) shall be designed and operated to achieve an exhaust VOC emission rate less than 7.5 milligrams per liter of gasoline loaded.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(b) by ref.}; A.A.C. R18-2-406(A)(4)]

(4) For the purpose of Condition XX.B.1.b(3), "exhaust VOC emission rate" shall refer to the vent stream exiting the regenerative adsorption system, prior to further treatment in a combustion device.

[A.A.C. R18-2-406(A)(4)]

(5) Each vapor collection system and regenerative adsorption system used to comply with Condition XX.B.1.b(1) shall be operated in a manner not to exceed the organic compound concentration value established pursuant to Condition XX.E.3.d and monitored in accordance with Condition XX.D.1.e.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.427(b) by ref.}; A.A.C. R18-2-406(A)(4)]

(6) Each vapor collection system and regenerative adsorption system used to comply with Condition XX.B.1.b(1) shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(d) by ref.}; A.A.C. R18-2-406(A)(4)]

(7) Exhaust from the regenerative adsorption systems used to comply with Condition XX.B.1.b(1) shall be routed to a thermal oxidizer as follows: Exhaust from the Truck Loading Rack Regenerative Adsorption System shall be routed to the Truck Loading Rack Thermal Oxidizer and exhaust from the Rail Car Loading Rack Regenerative Adsorption System shall be routed to the Rail Car Loading Rack Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

c. The Permittee shall not allow or perform loading of liquid product into gasoline cargo tanks except in accordance with the following restrictions and procedures:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e) by ref.}; A.A.C. R18-2-406(A)(4)]

(1) Loading shall be limited to vapor-tight gasoline cargo tanks.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e) by ref.}; A.A.C. R18-2-406(A)(4)]

(2) The Permittee shall obtain the vapor tightness documentation described in Condition XX.D.1.a for each gasoline cargo tank which is to be loaded.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

(3) The Permittee shall require the tank identification number to be recorded as each gasoline cargo tank is loaded.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e)(2) by ref.}; A.A.C. R18-2-406(A)(4)]

d. The Permittee shall cross-check each tank identification number obtained in Condition XX.B.1.c(3) with the file of tank vapor tightness documentation within 2 weeks after the corresponding gasoline cargo tank is loaded, unless either of the following conditions is maintained:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e)(3)(i) by ref.}]

(1) If less than an average of one gasoline cargo tank per month over the last 26 weeks is loaded without vapor tightness documentation, then the documentation cross-check shall be performed each quarter; or

(2) If less than an average of one gasoline cargo tank per month over the last 52 weeks is loaded without vapor tightness documentation, then the documentation cross-check shall be performed semiannually.

e. If either the quarterly or semiannual cross-check provided in Conditions XX.B.1.d(1) or XX.B.1.d(2) reveals that these conditions were not maintained, the Permittee must return to biweekly monitoring as required by Condition XX.B.1.d until such time as these conditions are again met.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c) by ref.; 40 CFR 60.502(e)(3)(ii) by ref.}]

f. In each instance where the documentation cross-check required by Condition XX.B.1.d reveals that a gasoline cargo tank was loaded at the refinery without vapor tightness documentation as required by Condition XX.B.1.c(2), the Permittee shall notify the owner or operator of the gasoline cargo tank within one week of the documentation cross-check required by Conditions XX.B.1.d and XX.B.1.e. In addition, the Permittee shall take steps assuring that the gasoline cargo tank will not be reloaded at the refinery until vapor tightness documentation for that gasoline cargo tank is obtained which documents that:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(c)(2) by ref.; 40 CFR 60.502(e)(4) by ref.}]

(1) The gasoline cargo tank meets the applicable test requirements in Condition XX.E.1.a.;

(2) For each gasoline cargo tank failing a test performed pursuant to Conditions XX.E.1.b or XX.E.1.c at the refinery, the cargo tank either:

(a) Before repair work is performed on the cargo tank, meets the test requirements in Conditions XX.E.1.c or XX.E.1.d, or

(b) After repair work is performed on the cargo tank before or during the tests in Conditions XX.E.1.c or XX.E.1.d, subsequently passes the annual certification test described in Condition XX.E.1.a.

g. The Permittee shall act to assure that loadings of gasoline cargo tanks are made only into gasoline cargo tanks equipped with vapor collection equipment that is compatible with the refinery's vapor collection system.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(f) by ref.}; A.A.C. R18-2-406(A)(4)]

h. The Permittee shall act to assure that the refinery's vapor collection system and the gasoline cargo tank's vapor collection equipment are connected during each loading of a gasoline cargo tank. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the gasoline loading racks.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(g) by ref.}; A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

i. Each gasoline loading rack and vapor collection system shall be designed and operated to prevent gauge pressure in the gasoline cargo tank from exceeding 460 mm H_2O (18 in. H_2O), and to prevent vacuum from exceeding 150 mm H_2O (6.0 in. H_2O), during product loading. This level is not to be exceeded when measured by the procedures specified in Condition XX.E.3.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 60.502(h) by ref.}; A.A.C. R18-2-406(A)(4)]

2. Operational Standards for Distillate Product Loading Racks

a. The Permittee shall not cause or allow the following loading operations to occur unless such loading is performed in accordance with Conditions XX.B.1.b through XX.B.1.h.

(1) Loading of organic liquids having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater into any delivery vessel.

(2) Loading of any liquid product into a delivery vessel whose previous load was an organic liquid having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall ensure that each loading rack that is used to load distillate products into distillate product cargo tanks shall be equipped with a vapor collection system designed to collect the vapors displaced from distillate product cargo tanks during product loading.

[A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

c. The Permittee shall ensure that vapors displaced from distillate product cargo tanks during loading of distillate products are routed to a thermal oxidizer as follows: Vapors displaced from loading at the Distillate Product Truck Loading Rack shall be routed to the Truck Loading Rack Thermal Oxidizer

and vapors displaced from loading at the Distillate Product Rail Car Loading Rack shall be routed to the Rail Car Loading Rack Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

d. The Permittee shall not allow or perform loading of liquid product into distillate product cargo tanks except in accordance with the following restrictions and procedures:

(1) Loading shall be limited to vapor-tight distillate cargo tanks.

(2) The Permittee shall obtain the vapor tightness documentation described in Condition XX.D.2.b for each distillate cargo tank which is to be loaded.

(3) The Permittee shall require the tank identification number to be recorded as each distillate cargo tank is loaded.

(4) Each vapor collection system shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

(5) Loading of distillate products shall be made only into distillate product cargo tanks that are equipped with vapor collection equipment that is compatible with the refinery's vapor collection system.

(6) The refinery's vapor collection system and the distillate product cargo tank's vapor collection equipment shall be connected during each loading of distillate products into a distillate product cargo tank. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the distillate product loading racks.

(7) Each distillate product loading rack and vapor collection system shall be designed and operated to prevent gauge pressure in the distillate product cargo tank from exceeding 460 mm H_2O (18 in. H_2O) during product loading.

(8) No pressure-vacuum vent in the refinery's vapor collection system shall begin to open at a system pressure less than 460 mm H_2O (18 in. H_2O).

[A.A.C. R18-2-331(A)(3)(d) & (e); A.A.C. R18-2-406(A)(4)]

3. Operational Limitations for Thermal Oxidizers

a. The Permittee shall not cause or allow to be combusted in the Truck Loading Rack Thermal Oxidizer or the Rail Car Loading Rack Thermal Oxidizer any auxiliary fuel other than natural gas and RFG.

For the purpose of this condition, gases displaced or discharged from gasoline cargo tanks or distillate cargo tanks during cargo tank loading operations shall not be considered auxiliary fuel.

[A.A.C. R18-2-306(A)(2)]

4. Emission Standards for Thermal Oxidizers

a. VOC Emission Standards

The Permittee shall not cause or allow to be emitted to the atmosphere from the Loading Rack Thermal Oxidizer or the Rail Car Loading Rack Thermal Oxidizer any gases which contain VOC in excess of the following amounts:

(1) 1.25 pounds per million gallons of product loaded at the gasoline product loading racks.

[A.A.C. R18-2-406(A)(4)]

(2) 22.0 pounds per million gallons of product loaded at the distillate product loading racks.

[A.A.C. R18-2-406(A)(4)]

(3) For periods when a loading rack thermal oxidizer is receiving vapors displaced from both gasoline product loading racks and distillate product loading racks, an amount (E_{total}) determined as follows:

$$E_{total} = EL_g V_g + EL_d V_d$$

Where:

E_{total} = VOC emission limit, pounds

EL_g = VOC emission limit for gasoline product loading racks, 1.25 pounds per million gallons loaded

V_g = Volume of product loaded at the gasoline loading product racks, millions of gallons

EL_d = VOC emission limit for distillate product loading racks, 22.0 pounds per million gallons loaded

V_d = Volume of product loaded at the gasoline loading product racks, millions of gallons

[A.A.C. R18-2-406(A)(4)]

(4) Each of the emission limits in Conditions XX.B.4.a(1) through XX.B.4.a(3) is based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. Sulfur Dioxide Emission Standards

(1) The Permittee shall not cause or allow to be combusted in the Truck Loading Rack Thermal Oxidizer or the Rail Car Loading Rack Thermal Oxidizer any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

(2) The Permittee shall not cause or allow to be combusted in the Truck Loading Rack Thermal Oxidizer or the Rail Car Loading Rack Thermal Oxidizer any auxiliary fuel which contains sulfur in excess of 35 ppmv, as H_2S, based on a daily average.

For the purpose of this condition, gases displaced or discharged from truck or rail car loading operations shall not be considered auxiliary fuel.

[A.A.C. R18-2-406(A)(4)]

5. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. At all times when the Gasoline Product Truck Loading Rack is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Gasoline Product Truck Loading Rack Vapor Collection System, the Truck Loading Rack Regenerative Adsorption System, and the Truck Loading Rack Thermal Oxidizer in a manner consistent with good air pollution control practice.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. At all times when the Gasoline Product Rail Car Loading Rack is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Gasoline Product Rail Car Loading Rack Vapor Collection System, the Rail Car Loading Rack Regenerative Adsorption System, and the Rail Car Loading Rack Thermal Oxidizer in a manner consistent with good air pollution control practice.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

3. At all times when the Distillate Product Truck Loading Rack is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Distillate Product Truck Loading Rack Vapor Collection System and the Truck Loading Rack Thermal Oxidizer in a manner consistent with good air pollution control practice.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

4. At all times when the Distillate Product Rail Car Loading Rack is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Distillate Product Rail Car Loading Rack Vapor Collection System and the Rail Car Loading Rack Thermal Oxidizer in a manner consistent with good air pollution control practice.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring, Recordkeeping, and Reporting for Gasoline Product Loading Racks

a. The Permittee shall maintain current vapor tightness documentation for each gasoline cargo tank loaded at the refinery. The documentation shall be updated at least once per year to reflect the results of the most recent annual certification test performed in accordance with Condition XX.E.1.a and shall include, at a minimum, the following information:

(1) Name of test (one of the following):

(a) "Annual Certification Test -- Method 27" or

(b) "Annual Certification Test -- Internal Vapor Valve."

(2) Gasoline cargo tank owner's name and address.

(3) Gasoline cargo tank identification number.

(4) Test location.

(5) Date of test.

(6) Tester name and signature.

(7) Witnessing inspector, if any: Name, signature, and affiliation.

(8) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.

(9) Test results: Pressure or vacuum change, mm H_2O; time period of test.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.422(a) by ref.; 40 CFR 63.428(b)(1) by ref.; 40 CFR 60.502(e)(1) by ref.}; R18-2-306(A)(4); R18-2-406(A)(4)]

b. For each gasoline cargo tank loaded at the refinery, the Permittee shall keep up-to-date records of each performance test performed at the refinery, in accordance with Conditions XX.E.1.b through XX.E.1.d, for that gasoline cargo tank. The documentation shall include, at a minimum, the following information:

(1) Name of test (one of the following):

(a) "Leak Detection Test,"

(b) "Nitrogen Pressure Decay Field Test," or

(c) "Continuous Performance Pressure Decay Test."

(2) Gasoline cargo tank owner's name and address.

(3) Gasoline cargo tank identification number.

(4) Test location and date.

(5) Tester name and signature.

(6) Witnessing inspector, if any: Name, signature, and affiliation.

(7) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.

(8) Test results: Pressure or vacuum change, mm H_2O; time period of test; number of leaks found with instrument and leak definition.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.428(b) by ref.}; R18-2-306(A)(4); R18-2-406(A)(4)]

c. The Permittee shall include in a semiannual report to the Director the following information, as applicable: Each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.428(g)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

d. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the gauge pressure in each Gasoline Product Loading Rack vapor collection system during product loading.

(1) The pressure monitoring system shall be designed to provide an indication of the maximum gauge pressure developed in each cargo tank during product loading.

(2) The pressure monitoring system shall include pressure measurement devices, capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, installed on the vapor collection system at a pressure tap located as close as possible to the connection with the gasoline cargo tank.

(3) The pressure monitoring system shall record the highest instantaneous pressure that occurs during each loading.

(4) The Permittee shall record the time and duration of each instance when the pressure monitoring system is malfunctioning or not operating.

(5) Each gauge pressure reading in excess of the limit in Condition XX.B.1.i shall constitute a period of excess emissions.

[A.A.C. R18-2-331(A)(3)(c), R18-2-406(A)(4)]

e. For each regenerative adsorption system used to comply with Condition XX.B.1.b(1), the Permittee shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a continuous emission monitoring system (CEMS) capable of measuring organic compound concentration in the exhaust air stream exiting the regenerative adsorption system.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.427(a) by ref.}; R18-2-306(A)(3); R18-2-331(A)(3)(c); and R18-2-406(A)(4)]

f. Operation of a regenerative adsorption system in a manner such that the organic compound concentration exceeds the value established pursuant to Condition XX.E.3.d shall constitute a violation of Condition XX.B.1.b(3).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.427(b) by ref.}; A.A.C. R18-2-406(A)(4)]

g. The Permittee shall keep an up-to-date, readily accessible record of the continuous monitoring data required by Condition XX.D.1.e.

(1) This record shall indicate the time intervals during which loadings of gasoline cargo tanks have occurred or, alternatively, shall record the operating parameter data only during such loadings.

(2) The date and time of day shall also be indicated at reasonable intervals on this record.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.428(c)(1) by ref.}; R18-2-306(A)(4); and R18-2-406(A)(4)]

h. The Permittee shall record and report, simultaneously with the notification of compliance status required under 40 CFR 63.9(h), all data and calculations, engineering assessments, and manufacturer's recommendations used in determining an organic compound concentration value established pursuant to Condition XX.E.3.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.428(c)(2)(i) by ref.}; R18-2-306(A)(4); and R18-2-406(A)(4)]

i. For the purposes of excess emissions reports required under 40 CFR 63.10(e)(3), the following occurrences are excess emissions events, and the following information shall be included in the excess emissions report, as applicable:

(1) Each instance of a non-vapor-tight gasoline cargo tank loading at the refinery in which the Permittee failed to take steps to assure that

such gasoline cargo tank would not be reloaded at the refinery before vapor tightness documentation for that gasoline cargo tank was obtained.

(2) Each reloading of a non-vapor-tight gasoline cargo tank at the refinery before vapor tightness documentation for that gasoline cargo tank is obtained by the refinery in accordance with Condition XX.B.1.f.

(3) Each exceedance of an organic compound concentration value established pursuant to Condition XX.E.3.d. The report shall include the monitoring data for the days on which exceedances have occurred, and a description and timing of the steps taken to repair or perform maintenance on the regenerative adsorption system or the CEMS.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.428(h) by ref.}; R18-2-306(A)(4); and R18-2-406(A)(4)]

2. Monitoring, Recordkeeping, and Reporting for Distillate Product Loading Racks

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the maximum gauge pressure in each Distillate Product Loading Rack vapor collection system during product loading.

(1) The pressure monitoring system shall be designed to provide an indication of the maximum gauge pressure developed in each cargo tank during product loading.

(2) The pressure monitoring system shall include pressure measurement devices, capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, installed on the vapor collection system at a pressure tap located as close as possible to the connection with the cargo tank.

(3) The pressure monitoring system shall record the highest instantaneous pressure that occurs during each loading.

(4) The Permittee shall record the time and duration of each instance when the pressure monitoring system is malfunctioning or not operating.

(5) Each gauge pressure reading in excess of the limit in Condition XX.B.3.d(8) shall constitute a period of excess emissions.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4)]

b. The Permittee shall maintain current vapor tightness documentation for each distillate cargo tank loaded at the refinery. The documentation shall be updated at least once per year to reflect the results of the most recent annual

certification test performed in accordance with Condition XX.E.1.a and shall include, at a minimum, the following information:

(1) Name of test (one of the following):

(a) "Annual Certification Test -- Method 27," or

(b) "Annual Certification Test -- Internal Vapor Valve."

(2) Distillate cargo tank owner's name and address.

(3) Distillate cargo tank identification number.

(4) Test location.

(5) Date of test.

(6) Tester name and signature.

(7) Witnessing inspector, if any: Name, signature, and affiliation.

(8) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.

(9) Test results: Pressure or vacuum change, mm H_2O; time period of test.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

c. For each distillate cargo tank loaded at the refinery, the Permittee shall keep up-to-date records of each leak detection test performed at the refinery, in accordance with Condition XX.E.1.b, for that distillate cargo tank. The documentation shall include, at a minimum, the following information:

(1) Name of test: "Leak Detection Test"

(2) Distillate cargo tank owner's name and address.

(3) Distillate cargo tank identification number.

(4) Test location and date.

(5) Tester name and signature.

(6) Witnessing inspector, if any: Name, signature, and affiliation.

(7) Vapor tightness repair: Nature of repair work and when performed in relation to vapor tightness testing.

(8) Test results: Pressure or vacuum change, mm H_2O; time period of test; number of leaks found with instrument and leak definition.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. The Permittee shall include in a semiannual report to the Director the following information, as applicable: Each loading of a distillate cargo tank for which vapor tightness documentation had not been previously obtained by the facility.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

3. Compliance Assurance Monitoring for Loading Rack VOC Emission Limitations

a. For the Rail Car Loading Rack Thermal Oxidizer and Truck Loading Rack Thermal Oxidizer, the Permittee shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, the following continuous parameter monitoring systems:

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(1) A temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in ºC or ±0.5 ºC, whichever is greater. The temperature sensor shall be installed at a representative location in the thermal oxidizer combustion chamber.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(2) A device for monitoring exhaust gas volumetric flow rate. The device shall be installed at a location that is representative of the volumetric flow rate of the exhaust gas from the thermal oxidizer combustion chamber. The device shall meet the specifications and requirements of Performance Specification 6, *Specifications and test procedures for continuous emission rate monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

b. For the purpose of demonstrating compliance with Condition XX.B.4.a, and in accordance with the requirements of 40 CFR part 64, the Permittee shall maintain and implement the approved Compliance Assurance Monitoring (CAM) plan for the Truck and Rail Car Loading Racks, Regenerative Adsorption Systems, and Thermal Oxidizers. Operation of approved monitoring in accordance with 40 CFR 64.7 shall commence upon startup of Truck and Rail Car Loading Operations.

c. The Permittee shall continuously monitor and record the combustion chamber temperature and the exhaust gas volumetric flow rate at each thermal oxidizer using the monitoring systems required by Condition XX.D.3.a. The output of each monitoring system shall be recorded on a circular chart or other permanent format and maintained on site readily available for inspection.

d. The monitoring systems required by Condition XX.D.3.a shall meet the performance criteria contained in the Permittee's approved CAM plan.

e. The Permittee shall operate the Rail Car Loading Rack Thermal Oxidizer and the Truck Loading Rack Thermal Oxidizer at combustion chamber temperatures not less than those established pursuant to Condition XX.E.4.b. Prior to the initial performance test for each control device, the minimum temperature value shall be 871 ºC (1,600 ºF).

f. The Permittee shall operate the Rail Car Loading Rack Thermal Oxidizer and the Truck Loading Rack Thermal Oxidizer each with an exhaust gas volumetric flow rate equal to or less than the flow rate that corresponds to a residence time of 0.75 seconds.

g. Each 15 minute block during which the Rail Car Loading Rack Thermal Oxidizer or the Truck Loading Rack Thermal Oxidizer combustion chamber temperature falls below the minimum temperature established pursuant to Condition XX.E.4.b, or during which the Rail Car Loading Rack Thermal Oxidizer or the Truck Loading Rack Thermal Oxidizer exhaust gas volumetric flow rate exceeds the maximum flow rate established pursuant to Condition XX.D.3.f shall constitute an excursion.

h. The Permittee shall take corrective action following each Rail Car Loading Rack or Truck Loading Rack Thermal Oxidizer combustion chamber temperature or flow rate excursion. Corrective action to restore the subject Thermal Oxidizer to normal operation shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, but no later than within 24 hours following detection of an excursion.

i. The Permittee shall perform an annual inspection of the Rail Car Loading Rack and Truck Loading Rack Thermal Oxidizer burners and combustion chamber temperature monitoring systems in accordance with manufacturer's recommended procedures. The Permittee shall take corrective action following the discovery of any abnormal operation or required maintenance of the Rail Car Loading Rack or Truck Loading Rack Thermal Oxidizers or combustion chamber temperature monitoring systems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, but no later than within 24 hours following detection of an excursion. The Permittee shall maintain records of all inspections and corrective actions performed pursuant to this condition, including the date of such inspection or corrective action.

j. Failure to perform a Rail Car Loading Rack Thermal Oxidizer or Truck Loading Rack Thermal Oxidizer inspection within 10 to 14 months of startup of gasoline cargo tank loading operations, or within 10 to 14 months of the previous inspection for subsequent inspections, shall constitute an excursion. Failure to conduct required maintenance or implement corrective action measures following discovery of functional problems shall also constitute an excursion.

k. Rail Car Loading Rack and Truck Loading Rack Thermal Oxidizer and combustion chamber temperature monitoring system annual inspections,

maintenance, excursions, and corrective action measures shall be recorded and reported in accordance with Condition XII.B of Attachment "A."

[A.A.C. R18-2-306(A)(3)&(4) {40 CFR part 64 - CAM}, R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

4. Monitoring for RFG Hydrogen Sulfide and Auxiliary Fuel Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate a continuous monitoring system for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stacks of the Truck Loading Rack Thermal Oxidizer and the Rail Car Loading Rack Thermal Oxidizer. Each monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for these monitors are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition XX.B.5.b(1) shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition XX.B.5.b(2) shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for these SO_2 monitors under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

(6) The oxygen monitor shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in

appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(7) The SO_2 continuous emission monitoring systems shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring systems under Condition XX.D.4.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring systems under Condition XX.D.4.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition XX.D.4.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring systems required by Condition XX.D.4.a, the Permittee may monitor the H_2S concentration of RFG and the sulfur concentration of auxiliary fuel combusted in the Truck Loading Rack Thermal Oxidizer and the Rail Car Loading Rack Thermal Oxidizer in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

(1) For the purpose of monitoring required under Condition XX.D.4.d, gases displaced or discharged from truck or rail car loading operations shall not be considered auxiliary fuel.

[A.A.C. R18-2-406(A)(4)]

(2) For purpose of compliance with Condition XX.B.5.b(1), the Administrator of EPA may approve alternate monitoring upon receipt and consideration of written application pursuant to 40 CFR 60.13(i). [A.A.C. R18-2-901(1) {40 CFR 60.13(i)}]

E. Testing Requirements

1. Performance Tests for Gasoline and Distillate Cargo Tanks

a. The annual certification test for gasoline and distillate cargo tanks shall consist of the following test methods and procedures:

(1) EPA Reference Method 27, appendix A, 40 CFR part 60. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (P_i) for the pressure test shall be 460 mm H_2O (18 in. H_2O), gauge. The initial vacuum (V_i) for the vacuum test shall be 150 mm H_2O (6 in. H_2O), gauge. The maximum allowable pressure and vacuum changes (ΔP, ΔV) are as shown in the second column of Table 2.

Table 2--Allowable Cargo Tank Test Pressure or Vacuum Change

Cargo tank or compartment capacity, liters (gal)	Annual certification allowable pressure or vacuum change (ΔP, ΔV) in 5 minutes, mm H_2O (in. H_2O)	Allowable pressure change (ΔP) in 5 minutes at any time, mm H_2O (in. H_2O)
9,464 or more (2,500 or more)	25 (1.0)	64 (2.5)
9,463 to 5,678 (2,499 to 1,500)	38 (1.5)	76 (3.0)
5,679 to 3,785 (1,499 to 1,000)	51 (2.0)	89 (3.5)
3,782 or less (999 or less)	64 (2.5)	102 (4.0)

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(e)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

(2) Pressure test of the cargo tank's internal vapor valve as follows:

(a) After completing the tests under Condition XX.E.1.a(1), use the procedures in EPA Reference Method 27 to repressurize the tank to 460 mm H_2O (18 in. H_2O), gauge. Close the tank's internal vapor valve(s), thereby isolating the vapor return line and manifold from the tank.

(b) Relieve the pressure in the vapor return line to atmospheric pressure, then reseal the line. After 5 minutes, record the gauge pressure in the vapor return line and manifold. The maximum allowable 5-minute pressure increase is 130 mm H_2O (5 in. H_2O).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(e)(2) by ref.};

A.A.C. R18-2-406(A)(4)]

b. The leak detection test for gasoline and distillate cargo tanks shall be performed using EPA Reference Method 21, appendix A, 40 CFR part 60, except omit section 4.3.2 of Method 21. A vapor-tight gasoline or distillate cargo tank shall have no leaks at any time when tested according to the these procedures.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(f) by ref.};
A.A.C. R18-2-406(A)(4)]

(1) The leak definition shall be 21,000 ppm as propane. Use propane to calibrate the instrument, setting the span at the leak definition. The response time to 90 percent of the final stable reading shall be less than 8 seconds for the detector with the sampling line and probe attached.

(2) In addition to the procedures in EPA Reference Method 21, include the following procedures:

(a) Perform the test on each compartment during loading of that compartment or while the compartment is still under pressure.

(b) To eliminate a positive instrument drift, the dwell time for each leak detection shall not exceed two times the instrument response time. Purge the instrument with ambient air between each leak detection. The duration of the purge shall be in excess of two instrument response times.

(c) Attempt to block the wind from the area being monitored. Record the highest detector reading and location for each leak.

c. The nitrogen pressure decay field test for gasoline cargo tanks shall be performed as follows:

(1) For those cargo tanks with manifolded product lines, this test procedure shall be conducted on each compartment.

(2) Record the cargo tank capacity.

(3) Upon completion of the loading operation, record the total volume loaded.

(4) Seal the cargo tank vapor collection system at the vapor coupler. The sealing apparatus shall have a pressure tap.

(5) Open the internal vapor valve(s) of the cargo tank and record the initial headspace pressure.

(6) Reduce or increase, as necessary, the initial headspace pressure to 460 mm H_2O (18 in. H_2O), gauge by releasing pressure or by adding commercial grade nitrogen gas from a high pressure cylinder capable of maintaining a pressure of 2,000 psig.

(7) The nitrogen cylinder shall be equipped with a compatible two-stage regulator with a relief valve and a flow control metering valve. The flow rate of the nitrogen shall be no less than 2 cfm.

(8) The maximum allowable time to pressurize cargo tanks with headspace volumes of 1,000 gallons or less to the appropriate pressure is 4 minutes. For cargo tanks with a headspace of greater than 1,000 gallons, use as a maximum allowable time to pressurize 4 minutes or the result from the equation below, whichever is greater.

$$T = V_h \times 0.004$$

where:

T = maximum allowable time to pressurize the cargo tank, min;

V_h = cargo tank headspace volume during testing, gal.

(9) It is recommended that after the cargo tank headspace pressure reaches approximately 460 mm H_2O (18 in. H_2O), gauge, a fine adjust valve be used to adjust the headspace pressure to 460 mm H_2O (18 in. H_2O), gauge for the next 30 ± 5 seconds.

(10) Reseal the cargo tank vapor collection system and record the headspace pressure after 1 minute. The measured headspace pressure after 1 minute shall be greater than the minimum allowable final headspace pressure (PF) as calculated from the following equation:

$$P_F = 18 \times \left(\frac{(18 - N)}{18}\right)^{\left(\frac{Vs}{5\times(V_h)}\right)}$$

where:

P_F = minimum allowable final headspace pressure, in. H_2O, gauge;

V_s = total cargo tank shell capacity, gal;

V_h = cargo tank headspace volume after loading, gal;

18 = initial pressure at start of test, in. H_2O, gauge;

N = 5-minute continuous performance standard at any time from the third column of Table 2 of Condition XX.E.1.a(1), inches H_2O.

(11) Conduct the internal vapor valve portion of this test by repressurizing the cargo tank headspace with nitrogen to 460 mm H_2O (18 in. H_2O), gauge. Close the internal vapor valve(s), wait for 30 ± 5 seconds, then relieve the pressure downstream of the vapor valve in the vapor collection system to atmospheric pressure. Wait 15 seconds, then reseal the vapor collection system. Measure and record the pressure every minute for 5 minutes. Within 5 seconds of the pressure measurement at the end of 5 minutes, open the vapor valve and record the headspace pressure as the "final pressure."

(12) If the decrease in pressure in the vapor collection system is less than at least one of the interval pressure change values in Table 3, or if the final pressure is equal to or greater than 20 percent of the 1-minute final headspace pressure determined in the test in Condition XX.E.1.c(4), then the gasoline cargo tank is considered to be a vapor-tight gasoline cargo tank.

Table 3--Pressure Change for Internal Vapor Valve Test	
Time interval	Interval pressure change, mm H_2O (in. H_2O)
After 1 minute	28 (1.1)
After 2 minutes	56 (2.2)
After 3 minutes	84 (3.3)
After 4 minutes	112 (4.4)
After 5 minutes	140 (5.5)

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(g) by ref.}; A.A.C. R18-2-406(A)(4)]

d. The continuous performance pressure decay test for gasoline cargo tanks shall be performed using EPA Reference Method 27, appendix A, 40 CFR Part 60.

(1) Conduct only the positive pressure test using a time period (t) of 5 minutes.

(2) The initial pressure (P_i) shall be 460 mm H_2O (18 in. H_2O), gauge.

(3) The maximum allowable 5-minute pressure change (Δ P) which shall be met at any time is shown in the third column of Table 2 of Condition XX.E.1.a(1).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(h) by ref.}; A.A.C. R18-2-406(A)(4)]

2. The Permittee shall conduct initial performance tests in accordance with Conditions XX.E.3 through XX.E.5 and shall conduct annual performance tests in accordance with Condition XX.E.4. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the affected facility.

[A.A.C. R18-2-1101(B)(1) {40 CFR 63.7(a)}, A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

3. Performance Tests for Gasoline Product Loading Rack Regenerative Adsorption Systems

The Permittee shall conduct initial performance tests required by 40 CFR 63.7(a) for each regenerative adsorption system using the test methods and procedures in appendix A to 40 CFR part 60 and as specified in Conditions XX.E.3.a through XX.E.3.e.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(a) by ref.}; A.A.C. R18-2-406(A)(4)]

a. Immediately before conducting the performance tests required by Conditions XX.E.3.b and XX.E.3.c, the Permittee shall use EPA Reference Method 21 to monitor for leakage of vapor all potential sources in the vapor collection system equipment while a gasoline cargo tank is being loaded. The Permittee shall repair all leaks with readings of 500 ppm (as methane) or greater before conducting the performance tests required by Conditions XX.E.3.b and XX.E.3.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(b) by ref.}; A.A.C. R18-2-406(A)(4)]

b. The Permittee shall determine compliance with Condition XX.B.1.b(3) as follows:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c) by ref.}; A.A.C. R18-2-406(A)(4)]

(1) The performance test shall be 6 hours long during which at least 300,000 liters of gasoline is loaded. If this is not possible, the test may be continued the same day until 300,000 liters of gasoline is loaded or the test may be resumed the next day with another complete 6-hour period. In the latter case, the 300,000-liter criterion need not be met. However, as much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

(2) If the regenerative adsorption system is intermittent in operation, the performance test shall begin at a reference vapor holder level and shall end at the same reference point. The test shall include at least two startups and shutdowns of the regenerative adsorption system. If this does not occur under automatically controlled operations, the system shall be manually controlled.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(2) by ref.}; A.A.C. R18-2-406(A)(4)]

(3) The exhaust VOC emission rate (E) shall be computed using the following equation:

$$E = K \times \sum_{i=1}^{n} \frac{\left(V_{esi}\ C_{ei}\right)}{\left(L \times 10^{6}\right)}$$

Where:

E = exhaust VOC emission rate, mg/liter of gasoline loaded, as measured in the vent stream exiting the regenerative adsorption system, prior to further treatment in a combustion device.

V_{esi} = volume of air-vapor mixture exhausted at each interval "i," scm.

C_{ei} = concentration of total organic compounds at each interval "i," ppm.

L = total volume of gasoline loaded, liters.

n = number of testing intervals.

i = emission testing interval of 5 minutes.

K = density of calibration gas, 1.83×10^6 for propane and 2.41×10^6 for butane, mg/scm.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(3) by ref.}; A.A.C. R18-2-406(A)(4)]

(4) The performance test shall be conducted in intervals of 5 minutes. For each interval "i," readings from each measurement shall be recorded, and the volume exhausted (V_{esi}) and the corresponding average total organic compounds concentration (C_{ei}) shall be determined. The sampling system response time shall be considered in determining the average total organic compounds concentration corresponding to the volume exhausted.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(4) by ref.}; A.A.C. R18-2-406(A)(4)]

(5) The following methods shall be used to determine the volume (V_{esi}) air-vapor mixture exhausted at each interval:

(a) EPA Reference Method 2B shall be used for combustion vapor processing systems.

(b) EPA Reference Method 2A shall be used for all other vapor processing systems.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(5) by ref.}; A.A.C. R18-2-406(A)(4)]

(6) EPA Reference Method 25A or 25B shall be used for determining the total organic compounds concentration (C_{ei}) at each interval. The calibration gas shall be either propane or butane. The Permittee may exclude the methane and ethane content in the exhaust vent by any method (e.g., EPA Reference Method 18) approved by the Director.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(6) by ref.}; A.A.C. R18-2-406(A)(4)]

(7) To determine the volume (L) of gasoline dispensed during the performance test period at all gasoline product loading racks whose vapor emissions are controlled by the regenerative adsorption system being tested, refinery records or readings from gasoline dispensing meters at each gasoline product loading rack shall be used.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(c)(7) by ref.}; A.A.C. R18-2-406(A)(4)]

c. The Permittee shall determine compliance with Condition XX.B.1.i as follows:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(d) by ref.}; A.A.C. R18-2-406(A)(4)]

(1) A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ±2.5 mm of water precision, shall be calibrated and installed on the vapor collection system at a pressure tap located as close as possible to the connection with the gasoline cargo tank.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(d)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

(2) During the performance test, the pressure shall be recorded every 5 minutes while a gasoline cargo tank is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(a) by ref.; 40 CFR 60.503(d)(2) by ref.}; A.A.C. R18-2-406(A)(4)]

d. For each performance test conducted under Condition XX.E.3.b, the Permittee shall determine an organic compound concentration value for the regenerative adsorption system using the following procedure:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(b) by ref.}; A.A.C. R18-2-406(A)(4)]

(1) During the performance test, continuously record the organic compound concentration as required under Condition XX.D.1.e;

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(b)(1) by ref.}; A.A.C. R18-2-406(A)(4)]

(2) Determine an organic compound concentration value based on the parameter data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations; and

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(b)(2) by ref.}; A.A.C. R18-2-406(A)(4)]

(3) Provide for the Director's approval the rationale for the selected organic compound concentration value, and monitoring frequency and averaging time, including data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the emission standard in Condition XX.B.1.b(3).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(b)(3) by ref.}; A.A.C. R18-2-406(A)(4)]

e. For performance tests performed after the initial performance test pursuant to Condition XX.E.3, the Permittee shall document the reasons for any change in the organic compound concentration value since the previous performance test.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.650; 40 CFR 63.425(c) by ref.}; A.A.C. R18-2-406(A)(4)]

4. Performance Tests for VOC Emissions from Thermal Oxidizers

The Permittee shall conduct initial and annual performance tests on the Rail Car Loading Rack Thermal Oxidizer and the Truck Loading Rack Thermal Oxidizer using the test methods and procedures in appendix A to 40 CFR part 60 and as specified in Conditions XX.E.4.a and XX.E.4.b.

[A.A.C. R18-2-406(A)(4)]

a. The Permittee shall determine compliance with Condition XX.B.4.a as follows:

[A.A.C. R18-2-406(A)(4)]

(1) The performance test shall consist of nine runs, as follows:

(a) Three runs shall be performed while the loading rack thermal oxidizer is receiving only vapors displaced from gasoline product loading racks (i.e., from a gasoline product loading rack regenerative adsorption system).

(b) Three runs shall be performed while the loading rack thermal oxidizer is receiving only vapors displaced from distillate product loading racks.

(c) Three runs shall be performed while the loading rack thermal oxidizer is receiving vapors displaced from both

gasoline product loading racks and distillate product loading racks.

(d) Each run shall be at least 60 minutes in duration.

[A.A.C. R18-2-406(A)(4)]

(2) EPA Reference Method 25A or 25B shall be used for determining the total organic compounds emission rate as follows:

(a) A separate emission rate shall be calculated for each set of three runs.

(b) The calibration gas shall be either propane or butane.

(c) The Permittee may exclude the methane and ethane content in the exhaust vent by any method (e.g., EPA Reference Method 18) approved by the Director.

[A.A.C. R18-2-406(A)(4)]

(3) Loading rack throughput shall be measured and recorded as follows:

(a) To determine the volume of gasoline or distillate product dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the thermal oxidizer being tested, refinery records or readings from dispensing meters at each product loading rack shall be used.

(b) Records of the volume dispensed during the performance test period, as determined pursuant to Condition XX.E.4.a(3)(a), shall be maintained in accordance with Condition XIII of Attachment "A."

[A.A.C. R18-2-406(A)(4)]

b. For each performance test conducted under Condition XX.E.4.a, the Permittee shall determine a combustion chamber temperature value for the thermal oxidizer using the following procedure:

[A.A.C. R18-2-406(A)(4)]

(1) During each performance test run, continuously monitor and record the combustion chamber temperature as required under Condition XX.D.3.c;

[A.A.C. R18-2-406(A)(4)]

(2) Determine a combustion chamber temperature value and associated averaging time, based on the temperature data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations, as applicable; and

[A.A.C. R18-2-406(A)(4)]

(3) Provide for the Director's approval the rationale for the selected combustion chamber temperature value and averaging time. Include data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the emission standards in Condition XX.B.4.a.

[A.A.C. R18-2-406(A)(4)]

5. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests required by 40 CFR 60.8(a) for sulfur dioxide emissions from the Rail Car Loading Rack Thermal Oxidizer and the Truck Loading Rack Thermal Oxidizer as follows:

a. Except as provided by Condition XX.E.5.b, the Permittee shall determine compliance with Condition XX.B.5.b(1) as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) EPA Reference Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by EPA Reference Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition XX.D.4.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition XX.B.5.b(1) as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the

line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For EPA Reference Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For EPA Reference Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For EPA Reference Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-901(1), R18-2-901(14), A.A.C. R18-2-1101(B)(23), 40 CFR part 64.

[A.A.C. R18-2-325]

XXI. BENZENE WASTE OPERATION

A. List of Emission Units

This section of the permit presents requirements that are applicable to benzene-containing waste streams throughout the refinery. It does not cover a specific process unit or emission unit.

B. Emission Limits and Standards

1. General

a. As used in this Section XXII, all terms shall have the meaning given in 40 CFR 61.341, except as noted otherwise.

b. The Permittee shall manage and treat the facility waste as follows:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)}; A.A.C. R18-2-406(A)(4)]

(1) For each waste stream that contains benzene, including (but not limited to) organic waste streams that contain less than 10 percent water and aqueous waste streams, even if the wastes are not discharged to an individual drain system, the Permittee shall:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)(1)}; A.A.C. R18-2-406(A)(4)]

(a) Remove or destroy the benzene contained in the waste using a treatment process or wastewater treatment system that complies with the standards specified in Condition XXI.B.7.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)(1)(i)}]

(b) Comply with the standards specified in Conditions XXI.B.2 through XXI.B.6 for each waste management unit that receives or manages the waste stream prior to and during treatment of the waste stream in accordance with Condition XXI.B.1.b(1)(a).
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)(1)(ii)}; A.A.C. R18-2-406(A)(4)]

(c) Each waste management unit used to manage or treat waste streams that will be recycled to a process shall comply with the standards specified in Conditions XXI.B.2 through XXI.B.6. Once the waste stream is recycled to a process, including to a tank used for the storage of production process feed, product, or product intermediates, unless this tank is used primarily for the storage of wastes, the material is no longer subject to Condition XXI.B.1.b.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)(1)(iii)}; A.A.C. R18-2-406(A)(4)]

(2) Except as provided in Condition XXII.B.1.a in Section XXIII of Attachment "B," a waste stream is exempt from Condition XXI.B.1.b(1) provided that the Permittee demonstrates initially and,

thereafter, at least once per year that the flow-weighted annual average benzene concentration for the waste stream is less than 10 ppmw as determined by the procedures specified in Condition XXI.D.3.b or XXI.D.3.c.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(c)(2)}]

c. Rather than treating the waste onsite, the Permittee may elect to comply with Condition XXI.B.1.b(1)(a) by transferring the waste offsite to another facility where the waste is treated in accordance with the requirements of 40 CFR 61.342(c)(1)(i). If the Permittee chooses to comply using this option, the Permittee shall:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(f)}]

(1) Comply with the standards specified in Conditions XXI.B.2 through XXI.B.6 for each waste management unit that receives or manages the waste prior to shipment of the waste offsite.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(f)(1)}]

(2) Include with each offsite waste shipment a notice stating that the waste contains benzene which is required to be managed and treated in accordance with the provisions of 40 CFR 61 subpart FF.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(f)(2)}]

d. Compliance with Condition XXI.B.1 will be determined by review of facility records and results from tests and inspections using methods and procedures specified in Conditions XXI.D.1 through XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.342(g)}]

2. Standards for Tanks

a. The Permittee shall meet the following standards for each tank in which the waste stream is placed in accordance with Condition XXI.B.1.b(1)(b). The standards in Conditions XXI.B.2.a through XXI.B.2.c apply to the treatment of the waste stream in a tank, including dewatering.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)}; A.A.C. R18-2-406(A)(4)]

(1) The Permittee 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.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) The fixed-roof shall meet the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)(i)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

1) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)(i)(A)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

2) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the tank except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)(i)(B)}; A.A.C. R18-2-331(A)(3)(e) and R18-2-406(A)(4)]

3) If the cover and closed-vent system operate such that the tank is maintained at a pressure less than atmospheric pressure, then Condition XXI.B.2.a(1)(a)(2) does not apply to any opening that meets all of the following conditions:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)(i)(C)}; A.A.C. R18-2-406(A)(4)]

a) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

b) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.; and

c) The pressure is monitored continuously to ensure that the pressure in the tank remains below atmospheric pressure.

(b) The closed-vent system and control device shall be designed and operated in accordance with the requirements of Condition XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(a)(1)(ii)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

b. Each fixed-roof, seal, access door, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access doors and other openings are closed and gasketed properly. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(c)}; A.A.C. R18-2-406(A)(4)]

c. Except as provided in Condition XXI.B.9, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 45 calendar days after identification.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.343(d)}; A.A.C. R18-2-406(A)(4)]

3. Standards for Surface Impoundments

The Permittee shall not cause or allow waste to be placed in a surface impoundment.
[A.A.C. R18-2-406(A)(4)]

4. Standards for Containers

a. The Permittee shall meet the following standards for each container in which waste is placed in accordance with Condition XXI.B.1.b(1)(b):
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)}; A.A.C. R18-2-406(A)(4)]

(1) The Permittee shall install, operate, and maintain a cover on each container used to handle, transfer, or store waste in accordance with the following requirements:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(1)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) The cover and all openings (e.g., bungs, hatches, and sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(1)(i)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(b) Except as provided in Condition XXI.B.4.a(4), each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the container except when it is necessary to use the opening for waste loading, removal, inspection, or sampling.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(1)(ii)}; A.A.C. R18-2-331(A)(3)(e) and R18-2-406(A)(4)]

(2) When a waste is transferred into a container by pumping, the Permittee shall perform the transfer using a submerged fill pipe. The submerged fill pipe outlet shall extend to within two fill pipe diameters of the bottom of the container while the container is being loaded. During loading of the waste, the cover shall remain in place and all openings shall be maintained in a closed, sealed position except for those openings required for the submerged fill pipe, those openings required for venting of the container to prevent physical damage or permanent deformation of the container or cover, and any openings complying with Condition XXI.B.4.a(4).
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(2)}; A.A.C. R18-2-406(A)(4)]

(3) Treatment of a waste in a container, including aeration, thermal, or other treatment, shall be performed by the Permittee in a manner such that whenever it is necessary for the container to be open while the waste is being treated, the container is located under a cover (e.g. enclosure) with a closed-vent system that routes all organic vapors vented from the container to a control device, except for cover and

closed-vent systems that meet the requirements in Condition XXI.B.4.a(4).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(3)}; A.A.C. R18-2-331(A)(3)(e) and R18-2-406(A)(4)]

(a) The cover and all openings (e.g., doors, hatches) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(3)(i)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(b) The closed-vent system and control device shall be designed and operated in accordance with Condition XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(3)(ii)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(4) If the cover and closed-vent system operate such that the container is maintained at a pressure less than atmospheric pressure, the Permittee may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(4)}; A.A.C. R18-2-406(A)(4)]

(a) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(4)(i)}; A.A.C. R18-2-406(A)(4)]

(b) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by methods specified in Condition XXI.D.6.; and

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(4)(ii)}; A.A.C. R18-2-406(A)(4)]

(c) The pressure is monitored continuously to ensure that the pressure in the container remains below atmospheric pressure.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(a)(4)(iii)}; A.A.C. R18-2-406(A)(4)]

b. Each cover and all openings shall be visually inspected initially and quarterly thereafter to ensure that they are closed and gasketed properly. For the purposes of this permit term only, “initially” shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(b)}; A.A.C. R18-2-406(A)(4)]

c. Except as provided in Condition XXI.B.9, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.345(c)}; A.A.C. R18-2-406(A)(4)]

5. Standards for Individual Drain Systems

a. Except as provided in Condition XXI.B.5.b, the Permittee shall meet the following standards for each individual drain system in which waste is placed in accordance with Condition XXI.B.1.b(1)(b):

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)}; A.A.C. R18-2-406(A)(4)]

(1) The Permittee shall install, operate, and maintain on each drain system opening a cover and closed-vent system that routes all organic vapors vented from the drain system to a control device.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)}; A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) The cover shall meet the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)(i)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

1) The cover and all openings (e.g., access hatches, sampling ports) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)(i)(A)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

2) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the drain system except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)(i)(B)}; R18-2-331(A)(3)(d)(e) and R18-2-406(A)(4)]

3) If the cover and closed-vent system operate such that the individual drain system is maintained at a pressure less than atmospheric pressure, then Condition XXI.B.5.a(1)(a)(2) does not apply to any opening that meets all of the following conditions:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)(i)(C)}; R18-2-406(A)(4)]

a) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

b) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.; and

c) The pressure is monitored continuously to ensure that the pressure in the individual drain system remains below atmospheric pressure.

(b) The closed-vent system and control device shall be designed and operated in accordance with Condition XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(1)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(2) Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur and that access hatches and other openings are closed and gasketed properly. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(a)(2)}; R18-2-406(A)(4)]

(3) Except as provided in Condition XXI.B.9, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

b. As an alternative to complying with Condition XXI.B.5.a, for any individual drain system, the Permittee may elect to comply with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)}; R18-2-406(A)(4)]

(1) Each drain shall be equipped with water seal controls or a tightly sealed cap or plug.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(1)}; R18-2-406(A)(4)]

(2) Each junction box shall be equipped with a cover and may have a vent pipe. The vent pipe shall be at least 90 cm (3 ft) in length and shall not exceed 10.2 cm (4 in) in diameter.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(2)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) Junction box covers shall have a tight seal around the edge and shall be kept in place at all times, except during inspection and maintenance.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(2)(i)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(b) One of the following methods shall be used to control emissions from the junction box vent pipe to the atmosphere:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(2)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

1) Equip the junction box with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation. An example of such a system includes use of water

seal controls on the junction box. A flow indicator shall be installed, operated, and maintained on each junction box vent pipe to ensure that organic vapors are not vented from the junction box to the atmosphere during normal operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(2)(ii)(A)}; R18-2-331(A)(3)(c)-(e) and R18-2-406(A)(4)]

2) Connect the junction box vent pipe to a closed-vent system and control device in accordance with Condition XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(2)(ii)(B)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(3) Each sewer line shall not be open to the atmosphere and shall be covered or enclosed in a manner so as to have no visual gaps or cracks in joints, seals, or other emission interfaces.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(3)}; R18-2-406(A)(4)]

(4) Equipment installed in accordance with Conditions XXI.B.5.b(1) through XXI.B.5.b(3) shall be inspected as follows:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(4)}; R18-2-406(A)(4)]

(a) Each drain using water seal controls shall be checked by visual or physical inspection initially and quarterly thereafter for indications of low water levels or other conditions that would reduce the effectiveness of water seal controls. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(4)(i)}; R18-2-406(A)(4)]

(b) Each drain using a tightly sealed cap or plug shall be visually inspected initially and quarterly thereafter to ensure caps or plugs are in place and properly installed. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(4)(ii)}; R18-2-406(A)(4)]

(c) Each junction box shall be visually inspected initially and quarterly thereafter to ensure that the cover is in place and to ensure that the cover has a tight seal around the edge. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(4)(iii)}; R18-2-406(A)(4)]

(d) The unburied portion of each sewer line shall be visually inspected initially and quarterly thereafter for indication of cracks, gaps, or other problems that could result in benzene emissions. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(4)(iv)}; R18-2-406(A)(4)]

(5) Except as provided in Condition XXI.B.9, when a broken seal, gap, crack, or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.346(b)(5)}; R18-2-406(A)(4)]

6. Standards for Oil-Water Separators

a. The Permittee shall meet the following standards for each oil-water separator in which waste is placed in accordance with Condition XXI.B.1.b(1)(b):
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)}; R18-2-406(A)(4)]

(1) The Permittee shall install, operate, and maintain a fixed-roof and closed-vent system that routes all organic vapors vented from the oil-water separator to a control device.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) The fixed-roof shall meet the following requirements:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)(i)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

1) The cover and all openings (e.g., access hatches, sampling ports, and gauge wells) shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)(i)(A)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

2) Each opening shall be maintained in a closed, sealed position (e.g., covered by a lid that is gasketed and latched) at all times that waste is in the oil-water separator except when it is necessary to use the opening for waste sampling or removal, or for equipment inspection, maintenance, or repair.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)(i)(B)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

3) If the cover and closed-vent system operate such that the oil-water separator is maintained at a pressure less than atmospheric pressure, then Condition XXI.B.6.a(1)(a)(2) does not apply to any opening that meets all of the following conditions:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)(i)(C)}; R18-2-406(A)(4)]

a) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

b) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.; and

c) The pressure is monitored continuously to ensure that the pressure in the oil-water separator remains below atmospheric pressure.

(b) The closed-vent system and control device shall be designed and operated in accordance with the requirements of Condition XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(a)(1)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

b. Each cover seal, access hatch, and all other openings shall be checked by visual inspection initially and quarterly thereafter to ensure that no cracks or gaps occur between the cover and oil-water separator wall and that access hatches and other openings are closed and gasketed properly. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(b)}; R18-2-406(A)(4)]

c. Except as provided in Condition XXI.B.9, when a broken seal or gasket or other problem is identified, or when detectable emissions are measured, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.347(c)}; R18-2-406(A)(4)]

7. Standards for Treatment Processes

a. Except as provided in Condition XXI.B.7.a(5), the Permittee shall treat the waste stream in accordance with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)}]

(1) The Permittee shall design, install, operate, and maintain a treatment process that either:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(1)}]

(a) Removes benzene from the waste stream to a level less than 10 parts per million by weight (ppmw) on a flow-weighted annual average basis, or

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(1)(i)}]

(b) Removes benzene from the waste stream by 99 percent or more on a mass basis.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(1)(ii)}]

(2) Each treatment process complying with Condition XXI.B.7.a(1) shall be designed and operated in accordance with the appropriate waste management unit standards specified in Conditions XXI.B.2 through XXI.B.6. For example, if a treatment process is a tank, then the Permittee shall comply with Condition XXI.B.2.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(2)}]

(3) For the purpose of complying with the requirements specified in Condition XXI.B.7.a.1(a), the intentional or unintentional reduction in the benzene concentration of a waste stream by dilution of the waste stream with other wastes or materials is not allowed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(3)}]

(4) The Permittee may aggregate or mix together individual waste streams to create a combined waste stream for the purpose of facilitating treatment of waste to comply with the requirements of Condition XXI.B.7.a(1).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(4)}]

(5) If the Permittee aggregates or mixes any combination of process wastewater, product tank drawdown, or landfill leachate subject to Condition XXI.B.1.b(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, then, notwithstanding the criteria relating to benzene concentration in Conditions XXI.B.1.b(1) and XXI.B.1.b(2), each waste management unit that comprises the wastewater treatment system shall be operated in accordance with the appropriate waste management unit standards specified in Conditions XXI.B.2 through XXI.B.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(a)(5), 61.348(b)(1)}]

b. The Permittee shall demonstrate that each treatment process or wastewater treatment system unit achieves the appropriate conditions specified in Condition XXI.B.7.a in accordance with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(c)}]

(1) Engineering calculations in accordance with requirements specified in Condition XXI.E.4; or

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(c)(1)}]

(2) Performance tests conducted using the test methods and procedures that meet the requirements specified in Conditions XXI.D.1 through XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(c)(2)}]

c. A treatment process or waste stream is in compliance with the requirements of 40 CFR 61 subpart FF and exempt from the requirements of Condition XXI.B.7.b provided that the Permittee documents the following:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(d)(4)}]

(1) The waste stream is treated by a means or to a level that meets benzene-specific effluent limitations or performance standards in accordance with the Effluent Guidelines and Standards under 40 CFR parts 401-464, and

(2) The treatment process is designed and operated with a closed-vent system and control device meeting the requirements of Condition XXI.B.8.

d. Except as specified in Condition XXI.B.7.d(3), if the treatment process or wastewater treatment system unit has any openings (e.g., access doors, hatches, etc.), all such openings shall be sealed (e.g., gasketed, latched, etc.) and kept closed at all times when waste is being treated, except during inspection and maintenance.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)}]

(1) Each seal, access door, and all other openings shall be checked by visual inspections initially and quarterly thereafter to ensure that no cracks or gaps occur and that openings are closed and gasketed properly. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(1)}]

(2) Except as provided in Condition XXI.B.9, when a broken seal or gasket or other problem is identified, first efforts at repair shall be made as soon as practicable, but not later than 15 calendar days after identification. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(2)}]

(3) If the cover and closed-vent system operate such that the treatment process and wastewater treatment system unit are maintained at a pressure less than atmospheric pressure, the Permittee may operate the system with an opening that is not sealed and kept closed at all times if the following conditions are met:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(3)}]

(a) The purpose of the opening is to provide dilution air to reduce the explosion hazard;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(3)(i)}]

(b) The opening is designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.; and

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(3)(ii)}]

(c) The pressure is monitored continuously to ensure that the pressure in the treatment process and wastewater treatment system unit remain below atmospheric pressure.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(e)(3)(iii)}]

e. Except for treatment processes complying with Condition XXI.B.7.d, the Director may request at any time the Permittee demonstrates that a treatment process or wastewater treatment system unit meets the applicable requirements specified in Conditions XXI.B.7.a by conducting a performance test using the test methods and procedures as required in Conditions XXI.D.1 through XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.348(f)}]

8. Standards for Closed-Vent Systems and Control Devices

a. For each closed-vent system used to comply with Conditions XXI.B.2 through XXI.B.7, the Permittee shall properly design, install, operate, and maintain the closed-vent system in accordance with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(1) The closed-vent system shall be designed to operate with no detectable emissions as indicated by an instrument reading of less than 500 ppmv above background, as determined initially and thereafter at least once per year by the methods specified in Condition XXI.D.6.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(i)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(2) For any vent system that contains a bypass line that could divert the vent stream away from a control device used to comply with the provisions of Conditions XXI.B.1 through XXI.B.9, the Permittee shall install, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow away from the control device at least once every 15 minutes, except as provided in Condition XXI.B.8.a(2)(b).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(ii)}; R18-2-331(A)(3)(c) and R18-2-406(A)(4)]

(a) The flow indicator shall be installed at the entrance to any bypass line that could divert the vent stream away from the control device to the atmosphere.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(ii)(A)}; R18-2-331(A)(3)(c) and R18-2-406(A)(4)]

(b) Where the bypass line valve is secured in the closed position with a car-seal or a lock-and-key type configuration, a flow indicator is not required.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(ii)(B)}; R18-2-406(A)(4)]

(3) All gauging and sampling devices in the closed-vent system shall be gas-tight except when gauging or sampling is taking place.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(iii)}; R18-2-406(A)(4)]

(4) For each closed-vent system complying with Condition XXI.B.8.a, one or more devices which vent directly to the atmosphere may be used on the closed-vent system provided each device remains in a

closed, sealed position during normal operations except when the device needs to open to prevent physical damage or permanent deformation of the closed-vent system resulting from malfunction of the unit in accordance with good engineering and safety practices for handling flammable, explosive, or other hazardous materials.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(1)(iv)}; R18-2-406(A)(4)]

b. For each control device used to comply with standards in accordance with Conditions XXI.B.2 through XXI.B.7, the Permittee shall properly design, install, operate, and maintain the control device in accordance with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(1) If the waste management unit is a tank subject to Condition XXI.B.2.a(1), the control device shall be one of the following:

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) Except as provided in Condition XXI.B.8.b(1)(b), the control device shall be either the Wastewater Treatment Plant Thermal Oxidizer, the Tank Farm Thermal Oxidizer, or the vapor compression system required by Condition XVI.B.1 in Section XVI herein.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(b) If the tank is used to treat process wastewater, the control device shall be the Wastewater Treatment Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(2) If the waste management unit is a container subject to Condition XXI.B.4.a(3)(b), the control device shall be the Wastewater Treatment Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(3) If the waste management unit is an individual drain system subject to Conditions XXI.B.5.a(1) or XXI.B.5.b(2)(b)(2), the control device shall be either the Wastewater Treatment Plant Thermal Oxidizer or a carbon adsorption system.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(4) If the waste management unit is an oil-water separator subject to Condition XXI.B.6.a(1), the control device shall be the Wastewater Treatment Plant Thermal Oxidizer.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(5) If the Tank Farm Thermal Oxidizer is used to comply with Condition XXI.B.2.a(1), the Tank Farm Thermal Oxidizer shall be operated in accordance with Conditions XVII.B.3.b and XVII.B.3.c in Section XVII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(i)(C)}; R18-2-406(A)(4)]

(6) If the Wastewater Treatment Plant Thermal Oxidizer is used to comply with Conditions XXI.B.2 through XXI.B.7, the Wastewater Treatment Plant Thermal Oxidizer shall be operated in accordance with Conditions XXII.B.2.b and XXII.B.2.c in Section XXIII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(i)(C)}; R18-2-406(A)(4)]

(7) If a carbon adsorption system is used to comply with Conditions XXI.B.5.a(1) or XXI.B.5.b(2)(b)(2), the system shall be designed and operated as follows:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(a) The system shall include dual carbon canisters (i.e., primary and secondary canisters) in series.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(b) Each carbon canister shall be designed to recover or control the organic emissions vented to it with an efficiency of 95 weight percent or greater, or to recover or control the benzene emissions vented to it with an efficiency of 98 weight percent or greater.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(ii)}; R18-2-406(A)(4)]

(c) The Permittee shall replace the primary carbon canister immediately upon detection of breakthrough pursuant to Condition XXI.C.3. For the purpose of this Condition XXI.B.8.b(7)(c), "immediately" shall mean within 24 hours.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

(d) Replacement of the primary carbon canister pursuant to Condition XXI.B.8.b(7)(c) shall be performed as follows:

[A.A.C. R18-2-406(A)(4)]

1) Either the secondary carbon canister or a fresh carbon canister may be used to replace the primary carbon canister.

2) A fresh carbon canister shall be used to replace the secondary carbon canister.

(8) If a vapor compression system is used to comply with Conditions XXI.B.2.a(1), the system shall be designed and operated in accordance with Conditions XVI.B.1 through XVI.B.4 in Section XVI of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(a)(2)(ii)}; R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

c. Each closed-vent system and control device used to comply with Conditions XXI.B.1 through XXI.B.8 shall be operated at all times when waste is placed in the waste management unit vented to the control device except when

maintenance or repair of the waste management unit cannot be completed without a shutdown of the control device.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(b)}; R18-2-331(A)(3)(d) & (e)]

d. Each closed-vent system and control device shall be visually inspected initially and quarterly thereafter. The visual inspection shall include inspection of ductwork and piping and connections to covers and control devices for evidence of visible defects such as holes in ductwork or piping and loose connections. For the purposes of this permit term only, "initially" shall mean within 7 days after being placed into operation.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(f)}; R18-2-406(A)(4)]

e. Except as provided in Condition XXI.B.9, if visible defects are observed during an inspection, or if other problems are identified, or if detectable emissions are measured, a first effort to repair the closed-vent system and control device shall be made as soon as practicable but no later than 5 calendar days after detection. Repair shall be completed no later than 15 calendar days after the emissions are detected or the visible defect is observed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(g)}; R18-2-406(A)(4)]

9. Delay of Repair

a. Delay of repair of facilities or units that are subject to the provisions of Conditions XXI.B.1 through XXI.B.8 may be allowed if the repair is technically impossible without a complete or partial facility or unit shutdown.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.350(a)}; R18-2-406(A)(4)]

(1) Delay of repair shall be allowed only by prior approval of the Director and subject to conditions imposed by the Director.

[A.A.C. R18-2-406(A)(4)]

(2) Repair of such equipment shall occur before the end of the next facility or unit shutdown.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.350(b)}; R18-2-406(A)(4)]

C. Monitoring of Operations

1. Except for a treatment process or waste stream complying with Condition XXI.B.7.c, the Permittee shall monitor each treatment process or wastewater treatment system unit to ensure the unit is properly operated and maintained by one of the following monitoring procedures:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(a)}]

a. Measure the benzene concentration of the waste stream exiting the treatment process complying with Condition XXI.B.7.a(1)(a) at least once per month by collecting and analyzing one or more samples using the procedures specified in Condition XXI.D.3.c.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(a)(1)}]

b. Install, calibrate, operate, and maintain according to manufacturer's specifications equipment to continuously monitor and record a process parameter (or parameters) for the treatment process or wastewater treatment system unit that indicates proper system operation. The Permittee shall inspect at least once each operating day the data recorded by the monitoring equipment (e.g., temperature monitor or flow indicator) to ensure that the unit is operating properly.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(a)(2)}; R18-2-331(A)(3)(c)]

c. For each treatment process or wastewater treatment system unit for which the Permittee elects to comply with Condition XXI.C.1.b, the Permittee shall conduct an initial performance evaluation of the monitoring system.

[A.A.C. R18-2-1101(A)(1) {40 CFR 61.14(c)}]

(1) The initial performance evaluation shall be based on monitoring system design and shall be performed at least 90 days prior to initial use of the monitoring system.

[A.A.C. R18-2-1101(A)(1) {40 CFR 61.14(c)}]

(2) The Permittee shall furnish the Director with written notification of the date of the performance evaluation at least 30 days before the evaluation is to begin.

[A.A.C. R18-2-1101(A)(1) {40 CFR 61.14(c)}]

(3) The Permittee shall furnish the Director with a copy of a written report of the results within 60 days after the performance evaluation.

[A.A.C. R18-2-1101(A)(1) {40 CFR 61.14(c)}]

2. If the Permittee uses a closed-vent system that contains any bypass line that could divert a vent stream from a control device used to comply with the provisions of Conditions XXI.B.1 through XXI.B.8, the Permittee shall do the following:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(f)}; R18-2-306(A)(3), R18-2-406(A)(4)]

a. Visually inspect the bypass line valve at least once every month, checking the position of the valve and the condition of the car-seal or closure mechanism required under Condition XXI.B.8.a(2) to ensure that the valve is maintained in the closed position and the vent stream is not diverted through the bypass line.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(f)(1)}; R18-2-306(A)(3), R18-2-406(A)(4)]

b. Visually inspect the readings from each flow monitoring device required by Condition XXI.B.8.a(2) at least once each operating day to check that vapors are being routed to the control device as required.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(f)(2)}; R18-2-306(A)(3), R18-2-406(A)(4)]

3. If the Tank Farm Thermal Oxidizer is used to comply with Condition XXI.B.2.a(1), the operation of the Tank Farm Thermal Oxidizer shall be monitored in accordance with Conditions XVII.D.1.b and XVII.D.1.c in Section XVII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(h)}; R18-2-306(A)(3), R18-2-406(A)(4)]

4. If the Wastewater Treatment Plant Thermal Oxidizer is used to comply with Conditions XXI.B.2 through XXI.B.7, the operation of the Wastewater Treatment Plant Thermal Oxidizer shall be monitored in accordance with Conditions XXII.D.1.b and XXII.D.1.c in Section XXIII of this Attachment "B."
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(h)}; R18-2-306(A)(3), R18-2-406(A)(4)]

5. If a carbon adsorption system is used to comply with Conditions XXI.B.1 through XXI.B.7, monitoring shall be performed as follows:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(d)}; R18-2-306(A)(3), R18-2-406(A)(4)]

a. Monitoring shall be performed at a location between the primary and secondary carbon canisters.
[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

b. Either the concentration level of the organic compounds or the concentration level of benzene shall be monitored on a daily basis or at intervals no greater than 20 percent of the design carbon replacement interval, whichever is greater.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(d)}; R18-2-306(A)(3), R18-2-406(A)(4)]

c. "Breakthrough" shall be defined as any reading equal to or greater than 200 ppmvd VOC or 5 ppmvd benzene.
[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

6. If the Permittee uses a system for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air, the Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications a device equipped with a continuous recorder to monitor the pressure in the unit to ensure that it is less than atmospheric pressure.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.354(g)}; R18-2-306(A)(3)&(4); R18-2-331(A)(3)(c); and R18-2-406(A)(4)]

D. Test Methods, Procedures, and Compliance Provisions

1. The Permittee shall determine the total annual benzene quantity from facility waste by the following procedure:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)}]

a. For each waste stream subject to Conditions XXI.B.1 through XXI.B.9 having a flow-weighted annual average water content greater than 10 percent water, on a volume basis as total water, or is mixed with water or other wastes at any time and the resulting mixture has an annual average water content greater than 10 percent, the Permittee shall:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(1)}]

(1) Determine the annual waste quantity for each waste stream using the procedures specified in Condition XXI.D.2.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(1)(i)}]

(2) Determine the flow-weighted annual average benzene concentration for each waste stream using the procedures specified in Condition XXI.D.3.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(1)(ii)}]

(3) Calculate the annual benzene quantity for each waste stream by multiplying the annual waste quantity of the waste stream times the flow-weighted annual average benzene concentration.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(1)(iii)}]

b. Total annual benzene quantity from facility waste is calculated by adding together the annual benzene quantity for each waste stream generated during the year and the annual benzene quantity for each process unit turnaround waste annualized according to Condition XXI.D.2.b.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(2)}]

c. The benzene quantity in a waste stream that is generated less than one time per year, except as provided for process unit turnaround waste in Condition XXI.D.2.b, shall be included in the determination of total annual benzene quantity from facility waste for the year in which the waste is generated unless the waste stream is otherwise excluded from the determination of total annual benzene quantity from facility waste in accordance with Conditions XXI.D.1 through XXI.D.3. The benzene quantity in this waste stream shall not be annualized or averaged over the time interval between the activities that resulted in generation of the waste, for purposes of determining the total annual benzene quantity from facility waste.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(a)(6)}]

2. For purposes of the calculation required by Condition XXI.D.1, the Permittee shall determine the annual waste quantity at the point of waste generation, unless otherwise provided in Conditions XXI.D.2.a through XXI.D.2.b, by one of the methods given in Conditions XXI.D.2.c through XXI.D.2.e.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)}]

a. The determination of annual waste quantity for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)(1)}]

b. The determination of annual waste quantity for each process unit turnaround waste generated only at 2 year or greater intervals, may be made by dividing the total quantity of waste generated during the most recent process unit turnaround by the time period (in the nearest tenth of a year) between the turnaround resulting in generation of the waste and the most recent preceding process turnaround for the unit. The resulting annual waste quantity shall be included in the calculation of the annual benzene quantity as provided in Condition XXI.D.1.a(3) for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process turnaround. For estimates of total annual benzene quantity as specified in the 90-day report, required under Condition XXI.F.1.a, the Permittee shall estimate the

waste quantity generated during the most recent turnaround, and the time period between turnarounds in accordance with good engineering practices. If the Permittee chooses not to annualize process unit turnaround waste, as specified in this paragraph, then the process unit turnaround waste quantity shall be included in the calculation of the annual benzene quantity for the year in which the turnaround occurs.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)(4)}]

c. Select the highest annual quantity of waste managed from historical records representing the most recent 5 years of operation or, if the facility has been in service for less than 5 years but at least 1 year, from historical records representing the total operating life of the facility;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)(5)}]

d. Use the maximum design capacity of the waste management unit; or

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)(6)}]

e. Use measurements that are representative of maximum waste generation rates. [A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(b)(7)}]

3. For the purposes of the calculation required by Condition XXI.D.1, the Permittee shall determine the flow-weighted annual average benzene concentration in a manner that meets the requirements given in Condition XXI.D.3.a using either of the methods given in Conditions XXI.D.3.b and XXI.D.3.c.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)}]

a. The determination of flow-weighted annual average benzene concentration shall meet all of the following criteria:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)}]

(1) The determination shall be made at the point of waste generation except for the following specific cases.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(i)}]

(a) The determination for sour water streams that are processed in sour water strippers shall be made at the point that the water exits the sour water stripper.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(i)(A)}]

(b) The determination of flow-weighted annual average benzene concentration for process unit turnaround waste shall be made using either of the methods given in Conditions XXI.D.3.b and XXI.D.3.c. The resulting flow-weighted annual average benzene concentration shall be included in the calculation of annual benzene quantity as provided in Condition XXI.D.3.a(3) for the year in which the turnaround occurs and for each subsequent year until the unit undergoes the next process unit turnaround.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(i)(D)}]

(2) Volatilization of the benzene by exposure to air shall not be used in the determination to reduce the benzene concentration.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(ii)}]

(3) Mixing or diluting the waste stream with other wastes or other materials shall not be used in the determination to reduce the benzene concentration.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(iii)}]

(4) The determination shall be made prior to any treatment of the waste that removes benzene, except as specified in Conditions XXI.D.3.a(1)(a) or XXI.D.3.a(1)(b).
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(iv)}]

(5) For wastes with multiple phases, the determination shall provide the weighted-average benzene concentration based on the benzene concentration in each phase of the waste and the relative proportion of the phases.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(1)(v)}]

b. *Knowledge of the waste.* The Permittee shall provide sufficient information to document the flow-weighted annual average benzene concentration of each waste stream. Examples of information that could constitute knowledge include material balances, records of chemicals purchases, or previous test results provided the results are still relevant to the current waste stream conditions. If test data are used, then the Permittee shall provide documentation describing the testing protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the flow-weighted annual average benzene concentration for the waste stream. When the Permittee and the Administrator do not agree on determinations of the flow-weighted annual average benzene concentration based on knowledge of the waste, the procedures under Condition XXI.D.3.c shall be used to resolve the disagreement.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(2)}]

c. Measurements of the benzene concentration in the waste stream in accordance with the following procedures:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)}]

(1) Collect a minimum of three representative samples from each waste stream. Where feasible, samples shall be taken from an enclosed pipe prior to the waste being exposed to the atmosphere.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(i)}]

(2) For waste in enclosed pipes, the following procedures shall be used:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)}]

(a) Samples shall be collected prior to the waste being exposed to the atmosphere in order to minimize the loss of benzene prior to sampling.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(i)(A)}]

(b) A static mixer shall be installed in the process line or in a by-pass line unless the Permittee demonstrates that installation of a static mixer in the line is not necessary to accurately determine the benzene concentration of the waste stream.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(B)}]

(c) The sampling tap shall be located within two pipe diameters of the static mixer outlet.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(C)}]

(d) Prior to the initiation of sampling, sample lines and cooling coil shall be purged with at least four volumes of waste.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(D)}]

(e) After purging, the sample flow shall be directed to a sample container and the tip of the sampling tube shall be kept below the surface of the waste during sampling to minimize contact with the atmosphere.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(E)}]

(f) Samples shall be collected at a flow rate such that the cooling coil is able to maintain a waste temperature less than 10 ºC (50 ºF).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(F)}]

(g) After filling, the sample container shall be capped immediately (within 5 seconds) to leave a minimum headspace in the container.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(G)}]

(h) The sample containers shall immediately be cooled and maintained at a temperature below 10 ºC (50 ºF) for transfer to the laboratory.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(ii)(H)}]

(3) When sampling from an enclosed pipe is not feasible, a minimum of three representative samples shall be collected in a manner to minimize exposure of the sample to the atmosphere and loss of benzene prior to sampling.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iii)}]

(4) Each waste sample shall be analyzed using one of the following test methods for determining the benzene concentration in a waste stream:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)}]

(a) Method 8020, Aromatic Volatile Organics, in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in 40 CFR 61.18);

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(A)}]

(b) Method 8021, Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in 40 CFR 61.18);
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(B)}]

(c) Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in 40 CFR 61.18);
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(C)}]

(d) Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics: Capillary Column Technique in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporation by reference as specified in 40 CFR 61.18);
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(D)}]

(e) Method 602, Purgeable Aromatics, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA methods; or
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(E)}]

(f) Method 624, Purgeables, as described in 40 CFR part 136, appendix A, Test Procedures for Analysis of Organic Pollutants, for wastewaters for which this is an approved EPA method.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(iv)(F)}]

(5) The flow-weighted annual average benzene concentration shall be calculated by averaging the results of the sample analyses as follows:

$$\overline{C} = \frac{1}{Q_t} \times \sum_{i=1}^{n} (Q_i)(C_i)$$

Where:

$\overline{C}$ = Flow-weighted annual average benzene concentration for waste stream, ppmw.

Q_t = Total annual waste quantity for waste stream, kg/yr (lb/yr).

n = Number of waste samples (at least 3).

Q_i = Annual waste quantity for waste stream represented by C_i, kg/yr (lb/yr).

C_i = Measured concentration of benzene in waste sample i, ppmw.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(c)(3)(v)}]

4. If the Permittee uses performance tests to demonstrate compliance of a treatment process with Condition XXI.B.7.a(1)(a), the Permittee shall measure the flow-weighted annual average benzene concentration of the waste stream exiting the treatment process by collecting and analyzing a minimum of three representative samples of the waste stream using the procedures in Condition XXI.D.3.c. The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The Permittee shall record all process information as is necessary to document the operating conditions during the test.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(d)}]

5. If the Permittee uses performance tests to demonstrate compliance of a treatment process with Condition XXI.B.7.a(1)(b), the Permittee shall determine the percent reduction of benzene in the waste stream on a mass basis by the following procedure:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(e)}]

a. The test shall be conducted under conditions that exist when the treatment process is operating at the highest inlet waste stream flow rate and benzene content expected to occur. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a test. The Permittee shall record all process information as is necessary to document the operating conditions during the test.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(e)(1)}]

b. All testing equipment shall be prepared and installed as specified in the appropriate test methods.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(e)(2)}]

c. The mass flow rate of benzene entering the treatment process (E_b) shall be determined by computing the product of the flow rate of the waste stream entering the treatment process, as determined by the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in Conditions XXI.D.3.b or XXI.D.3.c. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over a 3-

hour period. The mass flow rate of benzene entering the treatment process is calculated as follows:

$$E_b = \frac{K}{n \times 10^6} \left(\sum_{i=1}^{n} V_i C_i \right)$$

Where:

E_b = Mass flow rate of benzene entering the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m ^{3} (lb/ft ^{3}).

V_i = Average volume flow rate of waste entering the treatment process during each run i, m ^{3} /hr (ft ^{3} /hr).

C_i = Average concentration of benzene in the waste stream entering the treatment process during each run i, ppmw.

n = Number of runs.

10^6 = Conversion factor for ppmw.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(e)(3)}]

d. The mass flow rate of benzene exiting the treatment process (E_a) shall be determined by computing the product of the flow rate of the waste stream exiting the treatment process, as determined by the outlet flow meter or the inlet flow meter, and the benzene concentration of the waste stream, as determined using the sampling and analytical procedures specified in Conditions XXI.D.3.b or XXI.D.3.c. Three grab samples of the waste shall be taken at equally spaced time intervals over a 1-hour period. Each 1-hour period constitutes a run, and the performance test shall consist of a minimum of 3 runs conducted over the same 3-hour period at which the mass flow rate of benzene entering the treatment process is determined. The mass flow rate of benzene exiting the treatment process is calculated as follows:

$$E_a = \frac{K}{n \times 10^6} \left(\sum_{i=1}^{n} V_i C_i \right)$$

Where:

E_a = Mass flow rate of benzene exiting the treatment process, kg/hr (lb/hr).

K = Density of the waste stream, kg/m ^{3} (lb/ft ^{3}).

V_i = Average volume flow rate of waste exiting the treatment process during each run i, m^3/hr (ft^3/hr).

C_i = Average concentration of benzene in the waste stream exiting the treatment process during each run i, ppmw.

n = Number of runs.

10^6 = Conversion factor for ppmw.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(e)(4)}]

6. The Permittee shall test equipment for compliance with no detectable emissions as required in Conditions XXI.B.2 through XXI.B.6 and XXI.B.8 in accordance with the following requirements:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)}; R18-2-406(A)(4)]

a. Monitoring shall comply with Method 21 from appendix A of 40 CFR part 60.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(1)}; R18-2-406(A)(4)]

b. The detection instrument shall meet the performance criteria of Method 21.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(2)}; R18-2-406(A)(4)]

c. The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(3)}; R18-2-406(A)(4)]

d. Calibration gases shall be:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(4)}; R18-2-406(A)(4)]

(1) Zero air (less than 10 ppm of hydrocarbon in air); and

(2) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

e. The background level shall be determined as set forth in Method 21.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(5)}; R18-2-406(A)(4)]

f. The instrument probe shall be traversed around all potential leak interfaces as close as possible to the interface as described in Method 21.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(6)}; R18-2-406(A)(4)]

g. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared to 500 ppm for determining compliance.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.355(h)(7)}; R18-2-406(A)(4)]

E. Recordkeeping Requirements

1. Each record required by Conditions XXI.E.2 through XXI.E.11 shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(a)}]

2. The Permittee shall maintain records that identify each waste stream at the facility subject to Conditions XXI.B.1 through XXI.B.8, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with Conditions XXI.B.1 through XXI.B.8. In addition the Permittee shall maintain the following records:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(b)}]

a. For each waste stream not controlled for benzene emissions in accordance with Conditions XXI.B.1 through XXI.B.8, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(b)(1)}]

b. For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with Condition XXI.D.2.c, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with Condition XXI.D.2.c, the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with Condition XXI.D.1.a(3).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(b)(5)}]

3. If the Permittee transfers waste off-site to another facility for treatment in accordance with Condition XXI.B.1.c, the Permittee shall maintain documentation for each offsite waste shipment that includes the following information: Date waste is shipped offsite, quantity of waste shipped offsite, name and address of the facility receiving the waste, and a copy of the notice sent with the waste shipment.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(c)}]

4. If the Permittee uses a treatment process or wastewater treatment system unit in accordance with Condition XXI.B.7, the Permittee shall maintain the following records. The documentation shall be retained for the life of the unit.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)}]

a. A statement signed and dated by the Permittee certifying that the unit is designed to operate at the documented performance level when the waste

stream entering the unit is at the highest waste stream flow rate and benzene content expected to occur.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(1)}]

b. If engineering calculations are used to determine treatment process or wastewater treatment system unit performance, then the Permittee shall maintain the complete design analysis for the unit. The design analysis shall include for example the following information: Design specifications, drawings, schematics, piping and instrumentation diagrams, and other documentation necessary to demonstrate the unit performance.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(2)}]

c. If performance tests are used to determine treatment process or wastewater treatment system unit performance, then the Permittee shall maintain all test information necessary to demonstrate the unit performance.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(3)}]

(1) A description of the unit including the following information: type of treatment process; manufacturer name and model number; and for each waste stream entering and exiting the unit, the waste stream type (e.g., process wastewater, sludge, slurry, etc.), and the design flow rate and benzene content.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(3)(i)}]

(2) Documentation describing the test protocol and the means by which sampling variability and analytical variability were accounted for in the determination of the unit performance. The description of the test protocol shall include the following information: sampling locations, sampling method, sampling frequency, and analytical procedures used for sample analysis.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(3)(ii)}]

(3) Records of unit operating conditions during each test run including all key process parameters.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(3)(iii)}]

(4) All test results.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(e)(3)(iv)}]

d. For each treatment process or wastewater treatment system unit, the Permittee shall maintain a record of the method of compliance. Contemporaneously with making a change from one operating scenario to another, such as using engineering calculations rather than performance tests, the Permittee shall record in a log at the permitted facility a record of the scenario under which it is currently operating.

[A.A.C. R18-2-306(A)(11)]

5. If the Permittee uses control equipment in accordance with Conditions XXI.B.2 through XXI.B.6, the Permittee shall maintain engineering design documentation for all control equipment that is installed on the waste management unit. The documentation shall be retained for the life of the control equipment.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(d)}]

6. The Permittee shall maintain the following records for each closed-vent system and control device required under Condition XXI.B.8. The documentation shall be retained for the life of the control device.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(f)}; R18-2-306(A)(4); R18-2-406(A)(4)]

a. A statement signed and dated by the Permittee certifying that the closed-vent system and control device are designed to operate at the documented performance level when the waste management unit vented to the control device is or would be operating at the highest load or capacity expected to occur.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(f)(1)}]

b. An engineering design analysis used to demonstrate control device performance in accordance with Condition XXI.B.8.b.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(c)(1) & 61.356(f)(2)}; R18-2-306(A)(4); R18-2-406(A)(4)]

(1) If the Tank Farm Thermal Oxidizer is used to comply with Condition XXI.B.2.a(1), the Permittee shall maintain records of the engineering design analysis required by Condition XVII.D.1.a in Section XVII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(c)(1) & 61.356(f)(2)(i)}; R18-2-306(A)(4); R18-2-406(A)(4)]

(2) If the Wastewater Treatment Plant Thermal Oxidizer is used to comply with Conditions XXI.B.2 through XXI.B.7, the Permittee shall maintain records of the engineering design analysis required by Condition XXII.D.1.a in Section XXIII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(c)(1) & 61.356(f)(2)(i)}; R18-2-306(A)(4); R18-2-406(A)(4)]

(3) If a carbon adsorption system is used to comply with Conditions XXI.B.5.a(1) or XXI.B.5.b(2)(b)(2), the engineering design analysis shall include specifications, drawings, schematics, and piping and instrumentation diagrams that describe the control device design based on acceptable engineering texts. The design analysis shall address the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level or the design exhaust vent stream benzene concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.349(c)(1) & 61.356(f)(2)(i)}; R18-2-306(A)(4); R18-2-406(A)(4)]

7. The Permittee shall maintain a record for each visual inspection required by Conditions XXI.B.2 through XXI.B.6 that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment

location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(g)}; R18-2-306(A)(4); R18-2-406(A)(4)]

8. The Permittee shall maintain a record for each test of no detectable emissions required by Conditions XXI.B.2 through XXI.B.6 and XXI.B.8. The record shall include the following information: date the test is performed, background level measured during test, and maximum concentration indicated by the instrument reading measured for each potential leak interface. If detectable emissions are measured at a leak interface, then the record shall also include the waste management unit, control equipment, and leak interface location where detectable emissions were measured, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(h)}; R18-2-306(A)(4); R18-2-406(A)(4)]

9. For each treatment process and wastewater treatment system unit operated to comply with Condition XXI.B.7, the Permittee shall maintain documentation that includes the following information regarding the unit operation:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(i)}]

a. Dates of startup and shutdown of the unit.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(i)(1)}]

b. If measurements of waste stream benzene concentration are performed in accordance with Condition XXI.C.1.a, the Permittee shall maintain records that include date each test is performed and all test results.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(i)(2)}]

c. If a process parameter is continuously monitored in accordance with Condition XXI.C.1.b, the Permittee shall maintain records that include a description of the operating parameter (or parameters) to be monitored to ensure that the unit will be operated in conformance with these standards and the unit's design specifications, and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the unit.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(i)(3)}]

d. Periods when the unit is not operated as designed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(i)(5)}]

e. For each treatment process or wastewater treatment system unit, the Permittee shall maintain a record of the method of compliance. Contemporaneously with making a change from one operating scenario to another, such as monitoring a process parameter rather than performing measurements of waste stream benzene concentration, the Permittee shall record in a log at the permitted facility a record of the scenario under which it is currently operating.

[A.A.C. R18-2-306(A)(11)]

10. For each control device required under Condition XXI.B.8, the Permittee shall maintain documentation that includes the following information regarding the control device operation:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)}; R18-2-306(A)(4); R18-2-406(A)(4)]

a. Dates of startup and shutdown of the closed-vent system and control device.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(1)}; R18-2-306(A)(4); R18-2-406(A)(4)]

b. A description of the operating parameter (or parameters) to be monitored to ensure that the control device will be operated in conformance with these standards and the control device's design specifications and an explanation of the criteria used for selection of that parameter (or parameters). This documentation shall be kept for the life of the control device.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(2)}; R18-2-306(A)(4); R18-2-406(A)(4)]

c. Periods when the closed-vent system and control device are not operated as designed including all periods and the duration when:
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(3)}; R18-2-306(A)(4); R18-2-406(A)(4)]

(1) Any valve car-seal or closure mechanism required under Condition XXI.B.8.a(2) is broken or the by-pass line valve position has changed.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(3)(i)}; R18-2-306(A)(4); R18-2-406(A)(4)]

(2) The flow monitoring devices required under Condition XXI.B.8.a(2) indicate that vapors are not routed to the control device as required.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(3)(ii)}; R18-2-306(A)(4); R18-2-406(A)(4)]

d. If the Tank Farm Thermal Oxidizer is used to comply with Condition XXI.B.2.a(1), the Permittee shall maintain records as required by Condition XVII.D.1.c in Section XVII of this Attachment “B.”
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(4)}; R18-2-306(A)(4); R18-2-406(A)(4)]

e. If the Wastewater Treatment Plant Thermal Oxidizer is used to comply with Conditions XXI.B.2 through XXI.B.7, the Permittee shall maintain records as required by Condition XXII.D.1.c in Section XXIII of this Attachment “B.”
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(4)}; R18-2-306(A)(4); R18-2-406(A)(4)]

f. If a carbon adsorption system is used to comply with Conditions XXI.B.5.a(1) or XXI.B.5.b(2)(b)(2), then the Permittee shall maintain records of dates and times when the control device is monitored, when breakthrough is measured, and shall record the date and time then the existing carbon in the control device is replaced with fresh carbon.
[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(j)(10)}; R18-2-306(A)(4); R18-2-406(A)(4)]

11. If a system is used for emission control that is maintained at a pressure less than atmospheric pressure with openings to provide dilution air, then the Permittee shall maintain records of the monitoring device and records of all periods during which the pressure in the unit is operated at a pressure that is equal to or greater than atmospheric pressure.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.356(m)}; R18-2-306(A)(4); R18-2-406(A)(4)]

12. For each individual drain system opening subject to the requirements of Condition XXI.B.5, the Permittee shall maintain a record of the method of compliance. Contemporaneously with making a change from one operating scenario to another, such as replacing a water seal control with a tightly sealed plug or with a local carbon canister, the Permittee shall record in a log at the permitted facility a record of the scenario under which it is currently operating.

[A.A.C. R18-2-306(A)(11)]

F. Reporting Requirements

1. The Permittee shall submit to the Director, by the date of initial startup of the refinery, a report that summarizes the regulatory status of each waste stream subject to Conditions XXI.B.1 through XXI.B.8 and which is determined by the procedures specified in Condition XXI.D.3 to contain benzene. The report shall include the following information:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)}]

a. Total annual benzene quantity from facility waste determined in accordance with Condition XXI.D.1 .

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(1)}]

b. A table identifying each waste stream and whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of Conditions XXI.B.1 through XXI.B.8.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(2)}]

c. For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of Conditions XXI.B.1 through XXI.B.8, the following information shall be added to the table:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)}]

(1) Whether or not the water content of the waste stream is greater than 10 percent;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(i)}]

(2) Whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(ii)}]

(3) Annual waste quantity for the waste stream;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(iii)}]

(4) Range of benzene concentrations for the waste stream;

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(iv)}]

(5) Annual average flow-weighted benzene concentration for the waste stream; and

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(v)}]

(6) Annual benzene quantity for the waste stream.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(3)(vi)}]

d. The report only needs to list in the report those waste streams that contact materials containing benzene. The report does not need to include other information required in 40 CFR 61.10(a).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(a)(4)}]

e. A certification that the equipment necessary to comply with these standards has been installed and that the required initial inspections or tests have been carried out in accordance with Conditions XXI.B through XXI.D. If a waiver of compliance is granted under 40 CFR 61.11, the certification of equipment necessary to comply with these standards shall be submitted by the date the waiver of compliance expires.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(1)}]

2. Beginning one year after initial startup of the refinery, the Permittee shall submit annually to the Director a report that updates the information listed in Conditions XXI.F.1.a through XXI.F.1.c. If the information in the annual report required by Conditions XXI.F.1.a through XXI.F.1.c is not changed in the following year, the Permittee may submit a statement to that effect.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(2)}]

3. Beginning 3 months after initial startup of the refinery, the Permittee shall submit quarterly to the Director a certification that all of the required inspections have been carried out in accordance with the requirements of Conditions XXI.B through XXI.C.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(6)}]

4. Beginning 3 months after initial startup of the refinery, the Permittee shall submit a report quarterly to the Director that includes:

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)}]

a. If a treatment process or wastewater treatment system unit is monitored in accordance with Condition XXI.C.1.a, then each period of operation during which the concentration of benzene in the monitored waste stream exiting the unit is equal to or greater than 10 ppmw.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(i)}]

b. If a treatment process or wastewater treatment system unit is monitored in accordance with Condition XXI.C.1.b, then each 3-hour period of operation during which the average value of the monitored parameter is outside the range of acceptable values or during which the unit is not operating as designed.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(ii)}]

c. If the Tank Farm Thermal Oxidizer is used to comply with Condition XXI.B.2.a(1), the report shall identify all periods of excess emissions in accordance with Condition XVII.D.1.f in Section XVII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(iv)(A)}; R18-2-406(A)(4)]

d. If the Wastewater Treatment Plant Thermal Oxidizer is used to comply with Conditions XXI.B.2 through XXI.B.7, the report shall identify all periods of excess emissions in accordance with Condition XXII.D.1.d in Section XXIII of this Attachment "B."

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(iv)(A)}; R18-2-406(A)(4)]

e. If a carbon adsorption system is used to comply with Conditions XXI.B.5.a(1) or XXI.B.5.b(2)(b)(2), the report shall identify each occurrence when the carbon is not replaced in accordance with Conditions XXI.B.8.b(7)(c)-(d).

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(iv)(I)}; R18-2-406(A)(4)]

f. For a cover and closed-vent system monitored in accordance with Condition XXI.C.6, the report shall identify any period in which the pressure in the waste management unit is equal to or greater than atmospheric pressure.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(7)(v)}; R18-2-406(A)(4)]

5. Beginning one year after initial startup of the refinery, the Permittee shall submit annually to the Director a report that summarizes all inspections required by Conditions XXI.B and XXI.C during which detectable emissions are measured or a problem (such as a broken seal, gap or other problem) that could result in benzene emissions is identified, including information about the repairs or corrective action taken.

[A.A.C. R18-2-1101(A)(15) {40 CFR 61.357(d)(8)}]

G. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-1101(A)(15).

[A.A.C. R18-2-325]

XXII. WASTEWATER TREATMENT PLANT

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Wastewater Collection System (n/a)	Enclosed sewers and covered sumps	Local carbon canisters; Wastewater Treatment Plant Thermal Oxidizer	EP-18
API Separator (Y-26002)	Enclosed, rectangular vessel	Wastewater Treatment Plant Thermal Oxidizer	EP-18
Dissolved Air Flotation (DAF) Unit (Y-26006)	Enclosed vessel	Wastewater Treatment Plant Thermal Oxidizer	EP-18
Equalization Tank (T-26004)	Enclosed vessel	Wastewater Treatment Plant Thermal Oxidizer	EP-18
Biotreater (T-26101)	Enclosed vessel	Wastewater Treatment Plant Thermal Oxidizer	EP-18
Wastewater Treatment Plant Thermal Oxidizer (S-26901)	Natural gas or RFG-fired, 334,000 Btu/hr heat input	Not applicable	EP-18
Spray Dryer Baghouse (F-26503)	Pneumatic conveying system with baghouse	Fabric filter baghouse	EP-15
Spray Dryer Heater (E-26502)	Natural gas or RFG-fired, 44 MMBtu/hr heat input (HHV)	Low-NO_X burners	EP-23
Equipment Leaks (n/a)	Fugitive VOC emissions	Not applicable	Not applicable

B. Emission Limits and Standards

1. Operational Limitations

a. Notwithstanding the criteria relating to benzene concentration in Conditions XXI.B.1.b(1) and XXI.B.1.b(2), the Permittee shall operate each waste management unit that receives, contains, or treats wastewater in accordance with requirements of Conditions XXI.B.2 through XXI.B.6 in Section XXII of Attachment "B."

[A.A.C. R18-2-306.01(A); R18-2-406(A)(4); R18-2-1101(B)(23) {40 CFR 63.647(a)}]

(1) For the purpose of Condition XXII.B.1.a, wastewater shall have the meaning given at 40 CFR § 63.641.

[A.A.C. R18-2-306.01(A); R18-2-406(A)(4); R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

(2) The Wastewater Collection System shall be considered one or more individual drain systems and shall be operated in accordance with the requirements of Condition XXI.B.5 in Section XXII of Attachment "B."

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

(3) The API Separator shall be considered an oil-water separator and shall be operated in accordance with the requirements of Condition XXI.B.6 in Section XXII of Attachment "B."

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

(4) The Dissolved Air Flotation Unit shall be considered a tank and shall be operated in accordance with the requirements of Condition XXI.B.2 in Section XXII of Attachment "B."

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

(5) The Equalization Tank shall be considered a tank and shall be operated in accordance with the requirements of Condition XXI.B.2 in Section XXII of Attachment "B."

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

(6) The Biotreater shall be considered a tank and shall be operated in accordance with the requirements of Condition XXI.B.2 in Section XXII of Attachment "B."

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.641 & 63.647(a)}]

b. The Permittee shall not cause or allow to be combusted in the Wastewater Treatment Plant Thermal Oxidizer or the Spray Dryer Heater any gases other than natural gas and RFG. Gases displaced from waste management units are considered RFG.

[A.A.C. R18-2-306(A)(2)]

c. The Permittee shall not cause or allow the heat input to the Spray Dryer Heater to exceed 44 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. VOC and Hazardous Air Pollutant Emission Standards for Thermal Oxidizer

The Permittee shall design, install, maintain, and operate the Wastewater Treatment Plant Thermal Oxidizer in accordance with Conditions XXII.B.2.a through XXII.B.2.c:

[A.A.C. R18-2-331(A)(3)(d) & (e) and R18-2-406(A)(4)]

a. The Wastewater Treatment Plant Thermal Oxidizer shall be designed to achieve a VOC destruction efficiency of 99.9 percent or greater at inlet VOC concentrations in excess of 20,000 ppmv and to achieve a outlet VOC

concentration of 20 ppmv or less, corrected to 3.0 percent oxygen, when inlet VOC concentrations are less than 20,000 ppmv.

[A.A.C. R18-2-406(A)(4)]

b. The Wastewater Treatment Plant Thermal Oxidizer shall be designed and operated such that the combustion chamber exhaust gas volumetric flow rate, based on a five-minute average, is equal to or less than the maximum flow rate value established pursuant to Condition XXII.D.1.a(2)(c).

[A.A.C. R18-2-406(A)(4)]

c. The Wastewater Treatment Plant Thermal Oxidizer shall be designed and operated such that the temperature of the gases exiting the combustion chamber, based on a 5-minute average, is at least 1,600 ºF, or the design minimum temperature established pursuant to Condition XXII.D.1.a(2)(d), whichever is greater.

[A.A.C. R18-2-406(A)(4)]

3. Emission Standards for RFG Combustion Devices

a. Sulfur Dioxide Emission Standards

(1) The Permittee shall not cause or allow to be combusted in the Wastewater Treatment Plant Thermal Oxidizer or the Spray Dryer Heater any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

(2) The Permittee shall not cause or allow to be combusted in the Wastewater Treatment Plant Thermal Oxidizer or the Spray Dryer Heater any RFG which contains sulfur in excess of 35 ppmv, as H_2S, based on an hourly rolling 24-hour average.

[A.A.C. R18-2-406(A)(4)]

b. Particulate Matter Emission Standards

The Permittee shall not cause or allow to be emitted from the stack of the Spray Dryer Heater any gases which contain PM_{10} in excess of 0.0075 lb per MMBtu heat input (HHV), based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

c. Nitrogen Oxides Emission Standards

The Permittee shall not cause or allow to be emitted from the stack of the Spray Dryer Heater any gases which contain NO_X in excess of 0.030 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

d. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted from the stack of the Spray Dryer Heater any gases which contain CO in excess of 0.04 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

e. Organic HAP Emission Standard

(1) Except as provided in Condition XXII.B.2.e(2), the Permittee shall not cause or allow to be emitted to the atmosphere from the Spray Dryer Heater any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 3-run average.

[40 CFR 63.7500(a)(1)]

(2) The carbon monoxide work practice standard in Condition XXII.B.2.e(1) shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

(3) The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

(4) The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

(5) During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

(6) Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

4. Emission Standards for the Spray Dryer Baghouse

a. The Permittee shall not allow to be emitted to the atmosphere from the Spray Dryer Baghouse any gases which contain particulate matter in excess of 0.005 grains per dry standard cubic foot, based on a three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause or allow to be emitted to the atmosphere from the Spray Dryer Baghouse any air contaminant, other than uncombined water, in excess of 5 percent opacity, based on a six-minute average.

[A.A.C. R18-2-406(A)(4) and R18-2-702(B)]

c. The Permittee shall not discharge or cause or allow the discharge of particulate matter emissions into the ambient air from the Spray Dryer Baghouse in excess of the allowable hourly emission rate determined as follows:

[A.A.C. R18-2-730(A)(1)]

(1) For the purposes of Condition XXII.B.4.c, all terms shall have the meaning given in A.A.C. R18-2-101 or R18-2-701.

(2) Process Weight Rates Less Than or Equal to 60,000 Pounds Per Hour:

(a) Determination of the allowable hourly emission rates (E) for process weight rates up to 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where:
E = Emissions in pounds per hour, and
P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(a)]

(3) Process Weight Rates Greater Than 60,000 Pounds Per Hour:

(a) Determination of the allowable hourly emission rates (E) for process weight rates in excess of 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

where:
E = Emissions in pounds per hour, and
P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(b)]

5. Leak Detection and Repair Program Requirements

For all equipment in VOC service or in organic HAP service, the Permittee shall comply with the requirements of 40 CFR 63 subpart CC (National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries), 40 CFR 63 subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks), and A.A.C. R18-2-406(A)(4) (BACT) as listed in Section XXIII of Attachment "B" of this permit.

C. Air Pollution Control Equipment

1. Waste Management Units

a. At all times when the API Separator, Dissolved Air Flotation Unit, Equalization Tank, or Biotreater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Wastewater Treatment Plant Thermal Oxidizer in a manner consistent with good air pollution control practice for minimizing VOC emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

b. At all times when the Wastewater Collection System is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Wastewater Treatment Plant Thermal Oxidizer and the local carbon canisters in a manner consistent with good air pollution control practice for minimizing VOC emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. Spray Dryer Heater

At all times when the Spray Dryer Heater is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners in a manner consistent with good air pollution control practice for minimizing nitrogen oxides emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

3. Spray Dryer Baghouse

At all times when the Spray Dryer is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the Spray Dryer Baghouse in a manner consistent with good air pollution control practice for minimizing particulate matter emissions.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Thermal Oxidizer VOC and Organic HAP Compliance Determination Procedures

[A.A.C. R18-2-306(A)(3)&(4); R18-2-331(A)(3)(c); and R18-2-406(A)(4)]

a. To demonstrate compliance with Condition XXII.B.2.a, the Permittee shall prepare a design evaluation of the Wastewater Treatment Plant Thermal Oxidizer.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(1) The design evaluation shall include specifications, drawings, schematics, and piping and instrumentation diagrams describing the control device design based on accepted engineering principles.

(2) The design evaluation shall address the following vent stream characteristics and control device operating parameters:

(a) Vent stream composition with expected ranges of constituent concentrations for VOC, including a scenario representing the reasonably expected maximum filling rate for waste management units venting to the Wastewater Treatment Plant Thermal Oxidizer.

(b) Design minimum combustion zone residence time. The design minimum combustion zone residence time shall be not less than 0.75 seconds.

(c) Design minimum and maximum flow rates. The design maximum exhaust gas volumetric flow rate shall be based upon the actual combustion zone volume and the design minimum combustion zone residence time addressed in Condition XXII.D.1.a(2)(b).

(d) Design minimum and average temperature in the combustion zone.

(3) The Permittee shall maintain a copy of the design evaluation, readily available for inspection, for the life of the Wastewater Treatment Plant Thermal Oxidizer.

b. The Permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following monitoring devices:

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(1) A temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in ºC or ±0.5 ºC, whichever is greater. The temperature sensor shall be installed at a representative location in the Wastewater Treatment Plant Thermal Oxidizer combustion chamber.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

(2) A device for monitoring exhaust gas volumetric flow rate. The device shall be installed at a location that is representative of the volumetric flow rate of the exhaust gas from the Wastewater

Treatment Plant Thermal Oxidizer combustion chamber. The device shall meet the specifications and requirements of Performance Specification 6, *Specifications and test procedures for continuous emission rate monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

c. The Permittee shall continuously monitor and record the temperature of the Wastewater Treatment Plant Thermal Oxidizer combustion chamber and the exhaust gas volumetric flow rate from the Wastewater Treatment Plant Thermal Oxidizer. The output of each monitoring system shall be recorded on a circular chart or other permanent format and shall be maintained on site readily available for inspection.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

d. Each 5-minute block during which the Wastewater Treatment Plant Thermal Oxidizer combustion chamber outlet temperature falls below the minimum temperature in Condition XXII.B.2.c, or during which the Wastewater Treatment Plant Thermal Oxidizer combustion chamber exhaust gas volumetric flow rate exceeds the maximum flow rate in Condition XXII.B.2.b, shall constitute a period of excess emissions.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

e. The Permittee shall perform an annual inspection of the Wastewater Treatment Plant Thermal Oxidizer burner and combustion chamber temperature monitoring system in accordance with the manufacturer's recommended procedures. [A.A.C. R18-2-306(A)(3); R18-2-406(A)(4)]

2. Monitoring for Fuel Usage

The Permittee shall monitor and record fuel usage and heat input to the Spray Dryer Heater in accordance with the following:

a. For each hour of operation, the fuels combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition XXII.D.2.a.

[A.A.C. R18-2-306(A)(3)(c)]

3. Monitoring for RFG Hydrogen Sulfide and Sulfur Concentration

a. The Permittee shall install, calibrate, maintain, and operate continuous monitoring systems for continuously monitoring and recording the concentration by volume (dry basis, corrected to 0.0 percent oxygen) of SO_2 emissions into the atmosphere from the stacks of the Wastewater Treatment Plant Thermal Oxidizer and the Spray Dryer Heater. Each monitor shall include an oxygen monitor for correcting the data for excess oxygen.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)}]

(1) The span values for these monitors are 50 ppm SO_2 and 25 percent oxygen.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(i)}]

(2) The SO_2 monitoring level equivalent to the H_2S standard under Condition XXII.B.3.a(1) shall be 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(ii)}]

(3) The SO_2 monitoring level equivalent to the sulfur standard under Condition XXII.B.3.a(2) shall be 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(4) The performance evaluations for these SO_2 monitors under 40 CFR 60.13(c) shall use Performance Specification 2 in appendix B to 40 CFR part 60. EPA Reference Methods 6 or 6C shall be used for conducting the relative accuracy evaluations. Method 6 samples shall be taken at a flow rate of approximately 2 liters/min for at least 30 minutes. The relative accuracy limit shall be 20 percent or 4 ppm, whichever is greater, and the calibration drift limit shall be 5 percent of the established span value.

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(3)(iii)}]

(5) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location (i.e., after one of the combustion devices), if monitoring at this location accurately represents the SO_2 emissions into the atmosphere from each of the combustion devices.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4), R18-2-901(14) {40 CFR 60.105(a)(3)(iv)}]

(6) The SO_2 continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

b. The following shall be considered periods of excess emissions:

(1) All rolling 3-hour periods during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XXII.D.3.a exceeds 20 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)(3)(i)}]

(2) Each calendar day period during which the average concentration of SO_2 as measured by the SO_2 continuous monitoring system under Condition XXII.D.3.a exceeds 4.3 ppm (dry basis, corrected to 0.0 percent oxygen).

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

(3) Periods of excess emissions as identified in Condition XXII.D.3.b(1) shall be considered periods of excess emissions for the purpose of reports under 40 CFR 60.7(c).

[A.A.C. R18-2-901(14) {40 CFR 60.105(e)}]

c. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

d. In place of the SO_2 continuous emission monitoring systems required by Condition XXII.D.3.a, the Permittee may monitor the H_2S and sulfur concentration of RFG combusted in the Wastewater Treatment Plant Thermal Oxidizer and the Spray Dryer Heater in accordance with Conditions XII.C.1 and XII.C.2 in Section XII of Attachment "B."

[A.A.C. R18-2-901(14) {40 CFR 60.105(a)(4)}]

4. Monitoring for NO_X, CO, and O_2 from the Spray Dryer Heater

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

a. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in gases emitted to the atmosphere from the Spray Dryer Heater.

b. Performance Specifications

(1) The NO_X continuous emission monitoring system shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(2) The CO continuous emission monitoring system shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

(3) The O_2 continuous emission monitoring system shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

c. Pollutant concentration data recorded by the continuous emission monitoring systems required by Condition XXII.D.4.a shall be converted to units of lb per MMBtu heat input in accordance with EPA Reference Method 19.

(1) The measured CO concentration in ppmv shall be multiplied by 7.26 $\times 10^{-8}$ to obtain concentration in terms of lb per standard cubic foot.

(2) F factors shall be determined in accordance with EPA Reference Method 19. Fuel sampling and analysis to determine F-factors shall be performed in accordance with the monitoring plan approved by the Director pursuant to Condition XXII.D.4.f.

d. Compliance with the NO_X and CO emission limitations in Conditions XXII.B.3.c and XXII.B.3.d, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition XXII.D.4.a.

e. Each continuous emission monitoring system shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

f. The Permittee shall prepare, submit, and implement a monitoring plan for the continuous emission monitoring systems.

(1) The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, Subpart D (§ 75.30).

(2) The monitoring plan shall include procedures, specifications, and frequencies for sampling and analyzing RFG as required by EPA Reference Method 19 and Condition XXII.D.4.c(2).

(3) The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition XXII.E.2 is conducted.

(4) Upon approval by the Director, the monitoring plan shall be implemented.

g. For each continuous emission monitoring system, the Permittee shall meet the following requirements:

(1) The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

(2) Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include

completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

(3) Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(4) For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

h. The following shall be considered periods of excess emissions:

(1) All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition XXII.D.4.a exceeds the emission standard in Condition XXII.B.3.c.

(2) All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Condition XXII.D.4.a exceeds the emission standard in Condition XXII.B.3.d.

[A.A.C. R18-2-306(A)(3), R18-2-406(A)(4)]

i. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

5. Monitoring and Recordkeeping for the Process Heater Organic HAP Emission Standard

a. The Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions XXII.D.6 and IV.D.7, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of performance tests and compliance demonstrations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(5) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

6. Notifications for the Process Heater Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition XXII.B.3.e(1). The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For the initial compliance demonstration required by Condition XXII.E.3.a, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the performance test according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions XXII.E.3.e(1) through XXII.E.3.e(6).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected heater including identification of which subcategory the heater is in, the capacity of the heater, a description of the add-on controls used on the heater, description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test. [40 CFR 63.7545(e)(1)]

(2) Summary of the results of all performance tests and calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the maximum carbon monoxide emission levels recorded during the performance test to show that the work practice standard in Condition XXII.B.3.e(1) has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

7. Reporting for the Process Heater Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition XXII.B.3.e(1) was not met. The Permittee shall also report each instance during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions XXII.D.7.a through XXII.D.7.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions XXII.D.7.b(2)(a) through XXII.D.7.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) A summary of the results of the annual performance test required by Condition XXII.E.3.b.

[40 CFR 63.7550(c)(5)]

(e) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance

report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(f) If there are no deviations from the work practice standard in Condition XXII.B.3.e(1), a statement that there were no deviations from the work practice standard during the reporting period.

[40 CFR 63.7550(c)(10)]

(3) For each deviation from the work practice standard in Condition XXII.B.3.e(1), the compliance report shall contain the information required by Conditions XXII.D.7.b(3)(a) through (c).

[40 CFR 63.7550(d)]

(a) The total operating time of the Spray Dryer Heater during the reporting period. [40 CFR 63.7550(d)(1)]

(b) A description of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(d)(2)]

(c) Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken. [40 CFR 63.7550(d)(3)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Condition XXII.D.7 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

d. For each performance test required by Condition XXII.E.3.b, the Permittee shall report the results of the performance test within 60 days after the completion of the performance test. Each report shall include all applicable

information required by Conditions XXII.D.7.b(2)(a) through XXII.D.7.b(2)(f). [40 CFR 63.7515(g)]

8. Monitoring and Recordkeeping for Spray Dryer Baghouse

a. The Permittee shall perform monthly visible emissions observations to determine the opacity of visible emissions from the stack of the Spray Dryer Fabric Filter Baghouse. These visible emissions observations shall be performed using EPA Reference Method 9.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

b. For the purpose of demonstrating compliance with Conditions XXII.B.4.a through XXII.B.4.c, and in accordance with the requirements of 40 CFR part 64, the Permittee shall maintain and implement the approved Compliance Assurance Monitoring (CAM) plan for the Spray Dryer Baghouse.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

(1) Prior to startup of the Spray Dryer, the Permittee shall obtain the Director's written approval of the CAM Plan and shall submit an application for revising the permit to include the monitoring and analysis procedures in the approved CAM Plan. These monitoring and analysis procedures shall be incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day EPA review period per A.A.C. R18-2-320(D).
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM}]

(2) Operation of approved monitoring in accordance with 40 CFR 64.7 shall commence upon startup of the Spray Dryer.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

(3) The CAM Plan shall describe in detail the maintenance procedures for the Spray Dryer Baghouse.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

c. The Permittee shall install, calibrate, operate, and maintain, according to the manufacturer's specifications, a continuous parameter monitoring system capable of measuring pressure drop across the Spray Dryer Baghouse.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

d. The Permittee shall continuously monitor and record the pressure drop across the Spray Dryer Baghouse. The output of the pressure drop continuous parameter monitoring system shall be recorded on a circular chart or other permanent format and maintained on site readily available for inspection.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

e. The pressure drop continuous parameter monitoring system shall meet the performance criteria contained in the approved CAM plan.
[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

f. The Permittee shall operate the Spray Dryer Baghouse with a pressure drop not outside the range (and consistent with the averaging period) established pursuant to Condition XXII.E.4.b.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, R18-2-331(A)(3)(e), and R18-2-406(A)(4)]

g. Each time the pressure drop across the Spray Dryer Baghouse falls outside the range (consistent with the averaging period) established pursuant to Condition XXII.E.4.b shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

h. Each instance of visible emissions in excess of zero percent opacity from Spray Dryer Fabric Filter Baghouse, as determined in accordance with Condition XXII.D.8.a, shall constitute an excursion.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

i. The Permittee shall take corrective action following each Spray Dryer Fabric Filter Baghouse pressure drop or opacity excursion. Corrective action to restore the baghouse to normal operation shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and in all cases shall be initiated within 24 hours following detection of an excursion.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

j. The Permittee shall perform a monthly inspection of the Spray Dryer Fabric Filter Baghouse and pressure drop continuous parameter monitoring system in accordance with the manufacturer's recommended procedures. The Permittee shall take corrective action following the discovery of any abnormal operation or required maintenance of the Spray Dryer Fabric Filter Baghouse or pressure drop continuous parameter monitoring system as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, but no later than within 24 hours following detection.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

k. Spray Dryer Baghouse and pressure drop continuous parameter monitoring system annual inspections, maintenance, excursions, and corrective action measures shall be recorded and reported in accordance with Condition XII.B of Attachment "A."

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR Part 64 - CAM}, and R18-2-406(A)(4)]

E. Testing Requirements

1. The Permittee shall perform initial and periodic performance tests in accordance with Conditions XXII.E.2 through XXII.E.5. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}, A.A.C. R18-2-406(A)(4)]

2. NSPS Test Methods and Procedures for Sulfur Dioxide Emission Standard

The Permittee shall conduct initial performance tests of the Wastewater Treatment Plant Thermal Oxidizer and the Spray Dryer Heater, as required by 40 CFR 60.8(a), as follows:

a. Except as provided by Condition XXII.E.2.b, the Permittee shall determine compliance with Condition XXII.B.3.a as follows:

(1) EPA Reference Method 6 or 6C and EPA Reference Method 3 or 3A shall be used to determine compliance.

(2) The sampling point in the duct shall be the centroid of the cross section if the cross-sectional area is less than 5.00 m^2 (53.8 ft^2) or at a point no closer to the walls than 1.00 m (39.4 in.) if the cross-sectional area is 5.00 m^2 or more and the centroid is more than 1 m from the wall.

(3) A 1-hour sample shall constitute a run.

(4) Method 6 samples shall be taken at a rate of approximately 2 liters/min.

(5) The concentration in mg/dscm obtained by Method 6 or 6C is multiplied by 0.3754 to obtain the concentration in ppm.

(6) EPA Reference Method 4 shall be used to determine the moisture content of the gases. The sampling point for Method 4 shall be adjacent to the sampling point for Method 6 or 6C.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(2)}]

b. If the Permittee chooses to monitor H_2S concentration pursuant to Condition XXII.D.2.d rather than operate an SO_2 continuous monitoring system, the Permittee shall determine compliance with Condition XXII.B.3.a as follows:

(1) EPA Reference Method 11, 15, 15A, or 16 shall be used to determine the H_2S concentration.

(2) The gases entering the sampling train should be at about atmospheric pressure. If the pressure in the RFG lines is relatively high, a flow control valve may be used to reduce the pressure. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train.

(3) The sample shall be drawn from a point near the centroid of the RFG line.

(4) For Method 11, the sampling time and sample volume shall be at least 10 minutes and 0.010 dscm (0.35 dscf). Two samples of equal sampling times shall be taken at about 1-hour intervals. The

arithmetic average of these two samples shall constitute a run. For most fuel gases, sampling times exceeding 20 minutes may result in depletion of the collection solution, although fuel gases containing low concentrations of H_2S may necessitate sampling for longer periods of time.

(5) For Method 15 or 16, at least three injects over a 1-hour period shall constitute a run.

(6) For Method 15A, a 1-hour sample shall constitute a run.

[A.A.C. R18-2-901(14) {40 CFR 60.106(e)(1)}]

3. NESHAP Test Methods and Procedures for Spray Dryer Heater

For the Spray Dryer Heater, the Permittee shall conduct performance tests for CO and shall demonstrate initial compliance with the work practice standard in Condition XXII.B.3.e(1) in accordance with Conditions XXII.E.3.a through XXII.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c)]

a. The Permittee shall demonstrate initial compliance with the work practice standard in Condition XXII.B.3.e(1) no later than 180 days after startup. The initial compliance demonstration is conducting a performance test for CO in accordance with Condition XXII.E.3.c.

[40 CFR 63.7510(a), 40 CFR 63.7510(c), 40 CFR 63.7510(g), 40 CFR 63.7520(d)]

b. The Permittee shall conduct annual performance tests for CO in accordance with Condition XXII.E.3.c. Each annual performance test must be conducted between 10 and 12 months after the previous performance test.

[40 CFR 63.7515(e)]

c. Performance tests for CO shall be conducted as follows:

[40 CFR 63.7520]

(1) The Permittee shall develop a site-specific test plan according to the requirements in 40 CFR § 63.7(c).

[40 CFR 63.7520(a)]

(2) The Permittee shall conduct each performance test according to 40 CFR § 63.7(c), (d), (f), and (h).

[40 CFR 63.7520(a)]

(3) The Permittee shall conduct each performance test at the maximum normal operating load.

[40 CFR 63.7520(d)]

(4) The Permittee shall not conduct performance tests during periods of startup, shutdown, or malfunction.

[40 CFR 63.7520(e)]

(5) The Permittee shall conduct three separate test runs for each performance test, as specified in 40 CFR § 63.7(e)(3). Each test run must last at least one hour.

[40 CFR 63.7520(f)]

(6) The Permittee shall conduct each performance test using the following methods.

(a) Method 1 in appendix A to 40 CFR part 60 shall be used to select the sampling ports location and the number of traverse points.

(b) Method 2, 2F, or 2G in appendix A to 40 CFR part 60 shall be used to determine velocity and volumetric flow rate of the stack gas.

(c) Method 3A or 3B in appendix A to 40 CFR part 60 or ASME PTC 19, Part 10(1981) shall be used to determine oxygen and carbon dioxide concentrations of the stack gas.

(d) Method 4 in appendix A to 40 CFR part 60 shall be used to measure the moisture content of the stack gas.

(e) Method 10, 10A, or 10B in appendix A to 40 CFR part 60 shall be used to measure the carbon monoxide emission concentration.

(f) Method 19 F-factor methodology in appendix A to 40 CFR part 60 shall be used to convert emissions concentration to lb per MMBtu emission rates.

[40 CFR 63.7520(b)]

4. Particulate Matter Performance Tests for Spray Dryer Heater

[A.A.C. R18-2-406(A)(4)]

The Permittee shall perform initial and annual performance tests to determine the PM_{10} emission rate from the stack of the Spray Dryer Heater. These tests shall be performed using EPA Reference Methods 201 or 201A and Method 202.

5. Particulate Matter Performance Tests for Spray Dryer Baghouse

a. The Permittee shall perform initial and annual performance tests to determine the particulate matter emission rate from the stack of the Spray Dryer Baghouse. These tests shall be performed using EPA Reference Method 5. The sampling time and sample volume for each run shall be at least 60 minutes and 30 dscf.

[A.A.C. R18-2-406(A)(4)]

b. For each performance test conducted under Condition XXII.E.5.a, the Permittee shall determine a range of pressure drop values for the Spray Dryer Baghouse using the following procedure:

(1) During each performance test run, continuously monitor and record the pressure drop as required under Condition XXII.D.8.d;

(2) Determine a range of pressure drop values and associated averaging time, based on the pressure drop data monitored during the performance test, supplemented by engineering assessments and the manufacturer's recommendations, as applicable; and

(3) Provide for the Director's approval the rationale for the selected range of pressure drop values and averaging time. Include data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the emission standards in Condition XXII.B.4.a through XXII.B.4.c.

[A.A.C. R18-2-406(A)(4)]

6. VOC Performance Tests

The Permittee shall perform initial and annual performance tests to verify that the Wastewater Treatment Plant Thermal Oxidizer is designed in accordance with Condition XXIII.B.2.a. These tests shall be performed using EPA Reference Methods 18, 25, or 25A. As required by Condition XVIII.B in Attachment "A" to this permit, tests shall be conducted during operation at maximum capacity and under representative operational conditions. In addition, if necessary to demonstrate that the thermal oxidizer is properly designed for both high inlet VOC concentration and low inlet VOC concentration, testing shall be performed during periods when the inlet VOC concentration is less than 20,000 ppmv.

[A.A.C. R18-2-406(A)(4)]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4),R18-2-702(B), R18-2-730(A)(1), R18-2-901(14), A.A.C. R18-2-1101(B)(23), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

XXIII. EQUIPMENT LEAKS

A. List of Emission Units

This section of the permit presents requirements that are applicable to piping and components in VOC, organic HAP, and H_2S service throughout the refinery. This section of the permit does not cover a specific process unit or emission unit.

Piping and components in VOC and/or organic HAP service occur in every refinery process unit, as well as the following locations in the refinery that are not associated with a particular process unit:

Tank Farm - All of the storage vessels located within the tank farm, including Group "A" through Group "D" storage vessels, are connected to one another and to the refinery process units via piping.

Gasoline Blending - Gasoline components including light naphtha, reformate, polygasoline (butane conversion product) and isomerate produced at the refinery process units are stored in several floating roof storage tanks. From these tanks, specific retail gasoline products can be blended to match retail product specifications. These blended products can be returned to storage, or loaded onto trucks.

Slop and Flushing Oil Systems - Throughout the refinery units, various slop oil streams are collected which are not suitable for further processing into liquid products, but may be a feedstock to the Delayed Coker Unit. These streams are termed straight run (from crude and vacuum distillation units), cracked (from hydrocracker), or heavy slop oils. Flush oil streams used to sweep contaminants from pumps or other critical components are also grouped in these systems. These systems include piping and components in VOC service.

Piping and components in H_2S service may be present in multiple process units, including but not limited to the *Sour Water Stripper* and *Sulfur Recovery Units*.

B. Emission Limits, Standards, and Monitoring

1. General

a. For all equipment in VOC or organic HAP service, the Permittee shall comply with the requirements of Sections XXIII.B.2 through XXIII.B.15.

b. For all equipment in H_2S service, the Permittee shall comply with the requirements of Section XXIII.B.14.

c. Compliance with the Conditions under Section XXIII.B will be determined by review of the records required by Sections XXIII.C.1 and XXIII.C.2 and the reports required by Section XXIII.C.3, review of performance test results, and by inspections.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(a) by ref.}; R18-2-406(A)(4)]

d. For the purpose of Section XXIII, "equipment" shall mean each pump, compressor, pressure relief device, sampling connection system, open-ended

valve or line, valve, connector, agitator, surge control vessel, bottoms receiver, and instrumentation system in VOC or organic HAP service or in H_2S service; and any control devices or systems required by Section XXIII. For all other definitions not provided in Section XXIII, refer to 40 CFR 63.161.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.161 by ref.}; R18-2-406(A)(4)]

e. Equipment in VOC service shall mean all equipment that contains or contacts a fluid (liquid or gas) that is at least 10 percent VOC by weight.

[A.A.C. R18-2-406(A)(4)]

f. Equipment in H_2S service shall mean all equipment that contains or contacts a fluid (liquid or gas) that is at least 2 percent H_2S by weight.

[A.A.C. R18-2-406(A)(4)]

g. Each piece of equipment in a process unit to which Section XXIII applies shall be identified such that it can be distinguished readily from equipment that is not subject to Section XXIII. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process unit boundaries by some form of weatherproof identification.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(c) by ref.}; R18-2-406(A)(4)]

h. Equipment that is in vacuum service is excluded from the requirements of Section XXIII.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(d) by ref.}; R18-2-406(A)(4)]

i. When each leak is detected as specified in Sections XXIII.B.2, XXIII.B.3, XXIII.B.7, XXIII.B.8, XXIII.B.11, or XXIII.B.12, the following requirements apply:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(f) by ref.}; R18-2-406(A)(4)]

(1) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(2) The identification which has been placed on equipment determined to have a leak, except for a valve or for a connector, may be removed after it is repaired.

(3) The identification on a valve may be removed after it has been monitored as specified in Condition XXIII.B.7.d(3) and no leak has been detected during the follow-up monitoring.

(4) The identification on a connector may be removed after it is monitored as specified in Condition XXIII.B.12.c and no leak is detected during the follow-up monitoring.

j. Except as provided in Condition XXIII.B.1.j(1), all terms in Section XXIII.B that define a period of time for completion of required tasks (e.g., weekly,

monthly, quarterly, annual), refer to the standard calendar periods unless specified otherwise in Section XXIII.B, a subsection, or condition that imposes the requirement.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(g) by ref.}]

(1) If the initial compliance date does not coincide with the beginning of the standard calendar period, the Permittee may elect to utilize a period beginning on the compliance date, or may elect to comply in accordance with the provisions of Conditions XXIII.B.1.j(2) or XXIII.B.1.j(3).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(g)(1) by ref.}]

(2) Time periods specified in Section XXIII.B for completion of required tasks may be changed by mutual agreement between the Permittee and the Director, as specified in 40 CFR 63 subpart A. For each time period that is changed by agreement, the revised period shall remain in effect until it is changed. A new request is not necessary for each recurring period.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(g)(2) by ref.}]

(3) Except as provided in Condition XXIII.B.1.j(1) or XXIII.B.1.j(2), where the period specified for compliance is a standard calendar period, if the initial compliance date does not coincide with the beginning of the calendar period, compliance shall be required according to the schedule specified in Conditions XXIII.B.1.j(3)(i) or XXIII.B.1.j(3)(ii), as appropriate.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(g)(3) by ref.}]

(i) Compliance shall be required before the end of the standard calendar period within which the compliance deadline occurs, if there remain at least 3 days for tasks that must be performed weekly, at least 2 weeks for tasks that must be performed monthly, at least 1 month for tasks that must be performed each quarter, or at least 3 months for tasks that must be performed annually; or

(ii) In all other cases, compliance shall be required before the end of the first full standard calendar period after the period within which the initial compliance deadline occurs.

(4) In all instances where a condition in Section XXIII.B requires completion of a task during each of multiple successive periods, the Permittee may perform the required task at any time during each period, provided the task is conducted at a reasonable interval after completion of the task during the previous period.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(g)(4) by ref.}]

k. In all cases where the conditions in Section XXIII.B require the Permittee to repair leaks by a specified time after the leak is detected, it is a violation to fail to take action to repair the leaks within the specified time. If action is

taken to repair the leaks within the specified time, failure of that action to successfully repair the leak is not a violation. However, if the repairs are unsuccessful, and a leak is detected, the Permittee shall take further action as required by the applicable conditions of Section XXIII.B.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.162(h) by ref.}; R18-2-406(A)(4)]

l. The Permittee shall comply with the following general BACT provisions:

[A.A.C. R18-2-406(A)(4)]

(1) All piping, valves, pump systems, and compressor systems shall conform to applicable ANSI, API, ASME, or equivalent codes.

(2) Underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical.

(3) To the extent that good engineering practice will permit, valves and piping connections shall be located to be reasonably accessible for leak-checking during plant operation.

2. VOC and Organic HAP Emissions from Pumps in Light Liquid Service

a. All pumps shall be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. These seal systems may include, but are not limited to, dual pump seals with barrier fluid at higher pressure than process pressure, seals degassing to vent control systems, or seals equipped with an automatic seal failure detection and alarm system. Submerged or seal-less pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition.

[A.A.C. R18-2-406(A)(4)]

b. Monitoring of Pumps

(1) The Permittee shall monitor each pump in light liquid service monthly to detect leaks by the method specified in Condition XXIII.D.2 and shall comply with the requirements of Conditions XXIII.B.2.b and XXIII.B.2.c, except as provided in Condition XXIII.B.15 and Conditions XXIII.B.2.d through XXIII.B.2.g.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(b)(1) by ref.}; R18-2-406(A)(4)]

(2) The instrument reading, as determined by the method as specified in Condition XXIII.D.2, that defines a leak is an instrument reading of 500 parts per million or greater.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(b)(2) by ref.}; R18-2-406(A)(4)]

(3) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, a leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(b)(3) by ref.}]

c. Repair of Leaking Pumps

(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 7 calendar days after it is detected, except as provided in Section XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(c)(1) by ref.}; R18-2-406(A)(4)]

(2) A first attempt at repair shall be made no later than 24 hours after the leak is detected. First attempts at repair include, but are not limited to, the following practices where practicable:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(c)(2) by ref.}; R18-2-406(A)(4)]

(i) Tightening of packing gland nuts.

(ii) Ensuring that the seal flush is operating at design pressure and temperature.

d. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of Conditions XXIII.B.2.b and XXIII.B.2.c, provided the following requirements are met:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e) by ref.}; R18-2-406(A)(4)]

(1) Each dual mechanical seal system is:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(ii) Equipped with a barrier fluid degassing reservoir that is routed to a process or RFG system or connected by a closed-vent system to a control device that complies with the requirements of Section XXIII.B.11; or

(iii) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(1) by ref.}; R18-2-406(A)(4)]

(2) The barrier fluid is not in light liquid service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(2) by ref.}; R18-2-406(A)(4)]

(3) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(3) by ref.}; R18-2-406(A)(4)]

(4) Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(4) by ref.}; A.A.C. R18-2-406(A)(4)]

(i) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the pump shall be

monitored as specified in Condition XXIII.D.2 to determine if there is a leak of VOC or organic HAP in the barrier fluid.

(ii) If an instrument reading of 500 parts per million or greater is measured, a leak is detected.

(5) Each sensor as described in Condition XXIII.B.2.d(3) is observed daily or is equipped with an alarm.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(5) by ref.}; R18-2-406(A)(4)]

(6) (i) The Permittee determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(6)(i) by ref.}; R18-2-406(A)(4)]

(ii) If indications of liquids dripping from the pump seal exceed the criteria established in Condition XXIII.B.2.d(6)(i), or if, based on the criteria established in Condition XXIII.B.2.d(6)(i), the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(6)(ii) by ref.}; R18-2-406(A)(4)]

(iii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Section XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(6)(iii) by ref.}; R18-2-406(A)(4)]

(iv) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(e)(6)(iv) by ref.}; R18-2-406(A)(4)]

e. Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of Conditions XXIII.B.2.b and XXIII.B.2.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(f) by ref.}; R18-2-406(A)(4)]

f. Any pump equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a RFG system or to a control device that complies with the requirements of Section XXIII.B.11 is exempt from the requirements of Conditions XXIII.B.2.b through XXIII.B.2.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.163(g) by ref.}; R18-2-406(A)(4)]

3. VOC and Organic HAP Emissions from Compressors

a. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere,

except as provided in Condition XXIII.B.15 and in Conditions XXIII.B.3.h and XXIII.B.3.i.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(a) by ref.}; R18-2-406(A)(4)]

b. Each compressor seal system as required in Condition XXIII.B.3.a shall be:

(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or RFG system or connected by a closed-vent system to a control device that complies with the requirements of Section XXIII.B.11; or

(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(b) by ref.}; R18-2-406(A)(4)]

c. The barrier fluid shall not be in light liquid service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(c) by ref.}; R18-2-406(A)(4)]

d. Each barrier fluid system as described in Conditions XXIII.B.3.a through XXIII.B.3.c shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(d) by ref.}; R18-2-406(A)(4)]

e. (1) Each sensor as required in Condition XXIII.B.3.d shall be observed daily or shall be equipped with an alarm.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(e)(1) by ref.}; R18-2-406(A)(4)]

(2) The Permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(e)(2) by ref.}; R18-2-406(A)(4)]

f. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under Condition XXIII.B.3.e(2), a leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(f) by ref.}; R18-2-406(A)(4)]

g. Repair of Leaking Compressors

(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 7 calendar days after it is detected, except as provided in Section XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(g)(1) by ref.}; R18-2-406(A)(4)]

(2) A first attempt at repair shall be made no later than 24 hours after each leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(g)(2) by ref.}; R18-2-406(A)(4)]

h. A compressor is exempt from the requirements of Conditions XXIII.B.3.a through XXIII.B.3.g if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a RFG system or to a control device that complies with the requirements of Section XXIII.B.11.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(h) by ref.}; R18-2-406(A)(4)]

i. Any compressor that is designated, as described in Condition XXIII.C.1.b(2)(ii), to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of Conditions XXIII.B.3.a through XXIII.B.3.h if the compressor:

(1) Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition XXIII.D.2; and

(2) Is tested for compliance with Condition XXIII.B.3.i(1) initially upon designation, quarterly, and at other times requested by the Director.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.164(i) by ref.}; R18-2-406(A)(4)]

j. A compressor in hydrogen service is exempt from the requirements of Conditions XXIII.B.3.a through XXIII.B.3.g if the Permittee demonstrates that the compressor is in hydrogen service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(g)}; R18-2-406(A)(4)]

(1) Each compressor is presumed not to be in hydrogen service unless the Permittee demonstrates that the piece of equipment is in hydrogen service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(g)(1)}; R18-2-406(A)(4)]

(2) For a piece of equipment to be considered in hydrogen service, it must be determined that the percentage hydrogen content can be reasonably expected always to exceed 50 percent by volume.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(g)(2)}; R18-2-406(A)(4)]

(i) For purposes of determining the percentage hydrogen content in the process fluid that is contained in or contacts a compressor, the Permittee shall use either:

(A) Procedures that conform to those specified in 40 CFR 60.593(b)(2).

(B) Engineering judgment to demonstrate that the percentage content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume.

a) When the Permittee and the Director do not agree on whether a piece of equipment

is in hydrogen service, the procedures in Condition XXIII.B.3.j(2)(i)(A) shall be used to resolve the disagreement.

b) If the Permittee determines that a piece of equipment is in hydrogen service, the determination can be revised only by following the procedures in Condition XXIII.B.3.j(2)(i)(A).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(g)(2)(i)}; R18-2-406(A)(4)]

4. VOC and Organic HAP Emissions from Pressure Relief Devices in Gas/Vapor Service

a. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in Condition XXIII.B.4.b, as measured by the method specified in Condition XXIII.D.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(a) by ref.}; R18-2-406(A)(4)]

b. Repair of Pressure Relief Devices

(1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 15 calendar days after each pressure release, except as provided in Section XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(b)(1) by ref.}; R18-2-406(A)(4)]

(2) No later than five calendar days after the pressure release and being returned to VOC or organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in Condition XXIII.D.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(b)(2) by ref.}; R18-2-406(A)(4)]

c. Any pressure relief device that is routed to a process or RFG system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in Section XXIII.B.11 is exempt from the requirements of Conditions XXIII.B.4.a and XXIII.B.4.b.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(c) by ref.}; R18-2-406(A)(4)]

d. (1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of Conditions XXIII.B.4.a and XXIII.B.4.b, provided the Permittee complies with the requirements in Condition XXIII.B.4.d(2).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(d)(1) by ref.}; R18-2-406(A)(4)]

(2) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than five calendar days after each pressure release, except as provided in Section XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.165(d)(2) by ref.}; R18-2-406(A)(4)]

5. VOC and Organic HAP Emissions from Sampling Connection Systems

a. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in Condition XXIII.B.15. Gases displaced during filling of the sample container are not required to be collected or captured.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.166(a) by ref.}; R18-2-406(A)(4)]

b. Each closed-purge, closed-loop, or closed-vent system as required in Condition XXIII.B.5.a shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of Section XXIII.B.11; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in Conditions XXIII.B.5.b(4)(i), XXIII.B.5.b(4)(ii), or XXIII.B.5.b(4)(iii).

(i) A waste management unit operated in accordance with requirements of Conditions XXI.B.2 through XXI.B.6 in Section XXII of Attachment "B."

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.166(b) by ref.}; R18-2-406(A)(4)]

c. *In-situ* sampling systems and sampling systems without purges are exempt from the requirements of Conditions XXIII.B.5.a and XXIII.B.5.b.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.166(c) by ref.}; R18-2-406(A)(4)]

6. VOC and Organic HAP Emissions from Open-ended Valves or Lines

a. (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in Condition XXIII.B.15 and in Conditions XXIII.B.6.d and XXIII.B.6.e.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(a)(1) by ref.}; R18-2-406(A)(4)]

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(a)(2) by ref.}; R18-2-406(A)(4)]

b. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(b) by ref.}; R18-2-406(A)(4)]

c. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with Condition XXIII.B.6.a at all other times.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(c) by ref.}; R18-2-406(A)(4)]

d. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of Conditions XXIII.B.6.a through XXIII.B.6.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(d) by ref.}]

e. Open-ended valves or lines containing materials which would autocatalytically polymerize or, would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in Conditions XXIII.B.6.a through XXIII.B.6.c are exempt from the requirements of Conditions XXIII.B.6.a through XXIII.B.6.c.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.167(e) by ref.}]

7. VOC and Organic HAP Emissions from Valves in Gas/Vapor Service and in Light Liquid Service

a. The Permittee shall, to the extent practical considering operability and safety factors, install seal-less or leak-less valves (including, but not limited to, welded bonnet bellow and diaphragm valves) on piping less than 8 inches in diameter.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall monitor all valves, except as provided in Condition XXIII.B.15 and in Conditions XXIII.B.7.f and XXIII.B.7.g and shall comply with all other provisions of Section XXIII.B.7, except as provided in Sections XXIII.B.10 and XXIII.B.15.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(b) by ref.}; R18-2-406(A)(4)]

(1) The valves shall be monitored to detect leaks by the method specified in Condition XXIII.D.2.

(2) The instrument reading that defines a leak is 100 parts per million or greater.

c. After initial start-up, each valve shall be monitored quarterly.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a) & 63.648(d); 63.168(c) by ref.}; R18-2-406(A)(4)]

d. Repair of Leaking Valves

(1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 7 calendar days after the leak is detected, except as provided in Section XXIII.B.10.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(f)(1) by ref.}; R18-2-406(A)(4)]

(2) A first attempt at repair shall be made no later than 24 hours after each leak is detected.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(f)(2) by ref.}; R18-2-406(A)(4)]

(3) When a leak has been repaired, the valve shall be monitored at least once within the first 3 months after its repair.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(f)(3) by ref.}; R18-2-406(A)(4)]

(i) The monitoring shall be conducted as specified in Conditions XXIII.D.2 to determine whether the valve has resumed leaking.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(f)(3)(i) by ref.}; R18-2-406(A)(4)]

(ii) Periodic monitoring required by Conditions XXIII.B.7.b and XXIII.B.7.c may be used to satisfy the requirements of Condition XXIII.B.7.d(3), if the timing of the monitoring period coincides with the time specified in Condition XXIII.B.7.d(3). Alternatively, other monitoring may be performed to satisfy the requirements of Condition XXIII.B.7.d(3), regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in Condition XXIII.B.7.d(3).
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(f)(3)(ii) by ref.}; R18-2-406(A)(4)]

e. First attempts at repair include, but are not limited to, the following practices where practicable:
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(g) by ref.}; R18-2-406(A)(4)]

(1) Tightening of bonnet bolts,

(2) Replacement of bonnet bolts,

(3) Tightening of packing gland nuts, and

(4) Injection of lubricant into lubricated packing.

f. Any valve that is designated, as described in Condition XXIII.C.1.b(6)(i), as an unsafe-to-monitor valve is exempt from the requirements of Conditions XXIII.B.7.b through XXIII.B.7.d if:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(h) by ref.}]

(1) The Permittee determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with Conditions XXIII.B.7.b and XXIII.B.7.c; and

(2) The Permittee has a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable.

g. Any valve that is designated, as described in Condition XXIII.C.1.b(6)(ii), as a difficult-to-monitor valve is exempt from the requirements of Conditions XXIII.B.7.b and XXIII.B.7.c if:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.168(i) by ref.}]

(1) The Permittee determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface or it is not accessible at anytime in a safe manner;

(2) The Permittee designates less than 3 percent of the total number of valves as difficult-to-monitor; and

(3) The Permittee follows a written plan that requires monitoring of the valve at least once per calendar year.

8. VOC and Organic HAP Emissions from Pumps, Valves, Connectors, and Agitators in Heavy Liquid Service; Instrumentation Systems; and Pressure Relief Devices in Liquid Service

a. Pumps, valves, connectors and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in Condition XXIII.D.2 if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in Conditions XXIII.B.8.c and XXIII.B.8.d, it is not necessary to monitor the system for leaks by the method specified in Condition XXIII.D.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(a) by ref.}; R18-2-406(A)(4)]

b. If an instrument reading of 500 parts per million or greater is measured for equipment identified in Condition XXIII.B.8.a, a leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(b) by ref.}; R18-2-406(A)(4)]

c. Repair of Leaking Components

(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in Condition XXIII.B.10.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(c)(1) by ref.}; R18-2-406(A)(4)]

(2) The first attempt at repair shall be made no later than 24 hours after each leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(c)(2) by ref.}; R18-2-406(A)(4)]

(3) For equipment identified in Condition XXIII.B.8.a that is not monitored by the method specified in Condition XXIII.D.2, repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(c)(3) by ref.}; R18-2-406(A)(4)]

d. First attempts at repair include, but are not limited to, the practices described under Conditions XXIII.B.2.c(2) and XXIII.B.7.e, for pumps and valves, respectively.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.169(d) by ref.}; R18-2-406(A)(4)]

9. VOC and Organic HAP Emissions from Surge Control Vessels and Bottoms Receivers

Except as provided in Condition XXIII.B.15, each surge control vessel or bottoms receiver shall comply with one of the following:

a. The organic vapors vented from the surge control vessel or bottoms receiver shall be routed back to the process. The piping or ductwork through which the vapors are routed shall not be considered a closed-vent system.

b. The organic vapors vented from the surge control vessel or bottoms receiver shall be routed to the RFG system. The piping or ductwork through which the vapors are routed shall not be considered a closed-vent system.

c. The surge control vessel or bottoms receiver is a Group “B” Storage Tank operated in compliance with Section XVII of Attachment “B.”

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.170 by ref.}; R18-2-406(A)(4)]

10. Delay of Repair for Equipment in VOC and Organic HAP Service

a. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in VOC or organic HAP service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(b) by ref.}; R18-2-406(A)(4)]

b. Except as provided in Condition XXIII.B.10.f, delay of repair of equipment for which leaks have been detected is allowed if repair within the specified

time period is technically infeasible without a process unit shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(a) by ref.}; R18-2-406(A)(4)]

c. Except as provided in Condition XXIII.B.10.f, delay of repair for valves, connectors, and agitators is also allowed if:

(1) The Permittee determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(c)(1) by ref.}; R18-2-406(A)(4)]

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with Section XXIII.B.11.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(c)(2) by ref.}; R18-2-406(A)(4)]

d. Except as provided in Condition XXIII.B.10.f, delay of repair for pumps is also allowed if:

(1) Repair requires replacing the existing seal design with a new system that the Permittee has determined will provide better performance or:

(i) A dual mechanical seal system that meets the requirements of Condition XXIII.B.2.d,

(ii) A pump that meets the requirements of Condition XXIII.B.2.e, or

(iii) A closed-vent system and control device that meets the requirements of Condition XXIII.B.2.f; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(d) by ref.}; R18-2-406(A)(4)]

e. Except as provided in Condition XXIII.B.10.f, delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.171(e) by ref.}; R18-2-406(A)(4)]

f. Limitations on Percent Leaking Components

Delay of repair of equipment for which leaks have been detected is allowed pursuant to Conditions XXIII.B.10.b through XXIII.B.10.e only if such delay would not cause the percent leaking components to exceed any of the following:

[A.A.C. R18-2-406(A)(4)]

(1) 1.0 percent of the total number of pumps in light liquid service and compressors on a source-wide basis.

(2) 1.0 percent of the total number of pressure relief devices on a source-wide basis.

(3) 0.3 percent of the total number of connectors in gas/vapor service and connectors in light liquid service on a source-wide basis.

(4) For valves in gas/vapor service and valves in light liquid service:

(i) 0.3 percent of the total number of valves in gas/vapor service and valves in light liquid service, determined on a source-wide basis, and

(ii) Not more than 0.025 percent of the total number of valves in gas/vapor service and valves in light liquid service shall be leaking with a concentration in excess of 10,000 ppmv as determined pursuant to Condition XXIII.D.2.

[A.A.C. R18-2-406(A)(4)]

11. VOC and Organic HAP Emissions from Closed-vent Systems and Control Devices

a. Where closed-vent systems and control devices are used to comply with Section XXIII, the Permittee shall comply with Conditions XXIII.B.11.b through XXIII.B.11.l.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(a) by ref.}; R18-2-406(A)(4)]

b. Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic HAP emissions or VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmv, whichever is less stringent. The 20 ppmv performance standard is not applicable to the provisions of Condition XXIII.B.15.f.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(b) by ref.}; R18-2-406(A)(4)]

c. Enclosed combustion devices shall be designed and operated to reduce the organic HAP emissions or VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 ppmvd, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 ºC.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(c) by ref.}; R18-2-406(A)(4)]

d. Where control devices are used to comply with the conditions in Section XXIII, the Permittee shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(e) by ref.}; R18-2-406(A)(4)]

e. Except as provided in Conditions XXIII.B.11.j and XXIII.B.11.k, each closed-vent system shall be inspected according to the procedures and schedule specified in Conditions XXIII.B.11.f(1) and XXIII.B.11.f(2).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(f) by ref.}; R18-2-406(A)(4)]

(1) If the closed-vent system is constructed of hard-piping, the Permittee shall:

(i) Conduct an initial inspection according to the procedures in Condition XXIII.B.11.f, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(f)(1) by ref.}; R18-2-406(A)(4)]

(2) If the vapor collection system or closed-vent system is constructed of duct work, the Permittee shall:

(i) Conduct an initial inspection according to the procedures in Condition XXIII.B.11.f, and

(ii) Conduct annual inspections according to the procedures in Condition XXIII.B.11.f.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(f)(2) by ref.}; R18-2-406(A)(4)]

f. Each closed-vent system shall be inspected according to the procedures in Condition XXIII.D.2.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(g) by ref.}; R18-2-406(A)(4)]

g. Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in Condition XXIII.B.11.h.

(1) A first attempt at repair shall be made no later than five calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in Condition XXIII.B.11.h.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(h) by ref.}; R18-2-406(A)(4)]

h. Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the Permittee determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result

from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(h) by ref.}; R18-2-406(A)(4)]

i. For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the Permittee shall comply with the provisions of either Condition XXIII.B.11.i(1) or XXIII.B.11.i(2), except as provided in Condition XXIII.B.11.i(3).

(1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in 40 CFR 63.118(a)(3) of 40 CFR Part 63 subpart G. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this condition.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(j) by ref.}; R18-2-406(A)(4)]

j. Any parts of the closed-vent system that are designated, as described in Condition XXIII.C.1.b(6)(i), as unsafe to inspect are exempt from the inspection requirements of Conditions XXIII.B.11.f(1) and XXIII.B.11.f(2) if:

(1) The Permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with Conditions XXIII.B.11.f(1) and XXIII.B.11.f(2); and

(2) The Permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times, but not more frequently than annually.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(k) by ref.}; R18-2-406(A)(4)]

k. Any parts of the closed-vent system that are designated, as described in Condition XXIII.C.1.b(6)(i), as difficult to inspect are exempt from the inspection requirements of Conditions XXIII.B.11.f(1) and XXIII.B.11.f(2) if:

(1) The Permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(2) The Permittee has a written plan that requires inspection of the equipment at least once every five years.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(l) by ref.}; R18-2-406(A)(4)]

l. Whenever VOC or organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of Section XXIII, such system or control device shall be operating.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.172(m) by ref.}; R18-2-406(A)(4)]

12. VOC and Organic HAP Emissions from Connectors in Gas/Vapor Service and in Light Liquid Service

a. The Permittee shall monitor all connectors in gas/vapor and light liquid service, except as provided Condition XXIII.B.15 and in Conditions XXIII.B.12.e through XXIII.B.12.g, at the intervals specified in Condition XXIII.B.12.b.

(1) The connectors shall be monitored to detect leaks by the method specified in Condition XXIII.D.2.

(2) If an instrument reading greater than or equal to 100 parts per million is measured, a leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(a) by ref.}; R18-2-406(A)(4)]

b. After initial start-up, each connector shall be monitored annually.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(b) by ref.}; R18-2-406(A)(4)]

c. Each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to VOC or organic HAP service. If the monitoring detects a leak, it shall be repaired according to the provisions of Condition XXIII.B.12.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(c)(1)(i) by ref.}; R18-2-406(A)(4)]

d. When a leak is detected, it shall be repaired as soon as practicable, but no later than 7 calendar days after the leak is detected, except as provided in Conditions XXIII.B.10 or XXIII.B.12.f. A first attempt at repair shall be made no later than 24 hours after the leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(d) by ref.}; R18-2-406(A)(4)]

e. Any connector that is designated, as described in Condition XXIII.C.1.b(6)(i), as an unsafe-to-monitor connector is exempt from the requirements of Condition XXIII.B.12.a if:

(1) The Permittee determines that the connector is unsafe to monitor because personnel would be exposed to an immediate danger as a result of complying with Conditions XXIII.B.12.a through XXIII.B.12.d; and

(2) The Permittee has a written plan that requires monitoring of the connector as frequently as practicable during safe to monitor periods.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(f) by ref.}]

f. Any connector that is designated, as described in Condition XXIII.C.1.b(6)(iii), as an unsafe-to-repair connector is exempt from the requirements of Conditions XXIII.B.12.a and XXIII.B.12.d if:

(1) The Permittee determines that repair personnel would be exposed to an immediate danger as a consequence of complying with Condition XXIII.B.12.d; and

(2) The connector will be repaired before the end of the next scheduled process unit shutdown.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(g) by ref.}]

g. (1) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined), is exempt from the monitoring requirements of Conditions XXIII.B.12.a and XXIII.B.12.c and from the recordkeeping and reporting requirements of Sections XXIII.C.1 and XXIII.C.3. An inaccessible connector is one that is:

(i) Buried;

(ii) Insulated in a manner that prevents access to the connector by a monitor probe;

(iii) Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

(iv) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to connectors up to 7.6 meters (25 feet) above the ground;

(v) Inaccessible because it would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold; or

(vi) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(h)(1) by ref.}]

(2) If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 7 calendar days after the leak is detected, except as provided in Conditions XXIII.B.10 and XXIII.B.12.f.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(h)(2) by ref.}; R18-2-406(A)(4)]

(3) If any inaccessible or ceramic or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, a first attempt at repair shall be made no later than 24 hours after the leak is detected.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.174(h)(3) by ref.}; R18-2-406(A)(4)]

h. All piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two inches in diameter. No later than the next scheduled monitoring after initial installation or replacement, all new or reworked connections shall be gas-tested or hydraulically tested at no less than normal operating pressure and adjustments made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, or olfactory means at least weekly by an operating personnel walk-through.

[A.A.C. R18-2-406(A)(4)]

13. Alternative Means of Emission Limitation for Equipment in VOC Service and Equipment in Organic HAP Service

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of Section XXIII.B.11 are exempt from the requirements of Sections XXIII.B.2 through XXIII.B.10 and Section XXIII.B.12. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.179 by ref.}]

14. Equipment in H_2S Service

a. The Permittee shall install, certify, operate and maintain a network of ambient H_2S concentration monitors at or near the facility boundary. H_2S monitors shall be arranged in such a way that coverage is provided for wind directions varying through 360 degrees. The monitors shall be set to alarm at a concentration of 0.03 ppmv or less and shall alarm in the control room.

[A.A.C. R18-2-306(A)(3), R18-2-331(A)(3)(c), R18-2-406(A)(4)]

b. The Permittee shall submit to the Director for approval an ambient H_2S monitoring plan in conformance with the requirements of Condition XXIII.B.14.a. The plan shall be submitted no later than 60 days prior to commencing operation of equipment in H_2S service, and shall include the number and location of monitors, monitor specifications, and alert mechanism(s).

[A.A.C. R18-2-406(A)(4)]

c. The Permittee shall perform audio, olfactory, and visual checks for H_2S leaks within each operating area containing equipment in H_2S service once per shift.

[A.A.C. R18-2-406(A)(4)]

d. Immediately, but no later than one hour upon detection of a leak, plant personnel shall take the following actions:

(1) Isolate the leak.

(2) Commence repair or replacement of the leaking component.

(3) If immediate repair is not possible, a leak collection or containment system will be used to prevent or minimize the leak or the facility shall be shutdown in an orderly manner until repair or replacement can be made. Containment can include, but is not limited to, adjustment of bolts, fittings, packing glands, and pump or compressor seals to contain the leak.

[A.A.C. R18-2-406(A)(4)]

15. Benzene Emission Limitations

The requirements of Conditions XXIII.B.15.a and XXIII.B.15.b are designed to minimize benzene emissions. These requirements are not federally enforceable.

[A.A.C. R18-2-306(B)(2)]

a. Except as provided in Condition XXIII.B.15.b, the Permittee shall not, at any time, cause or allow the total number of components of the following equipment types, in organic HAP service, at the entire source, to exceed the following:

(1) 4,162 valves in gas/vapor service;

(2) 15,594 valves in light liquid service;

(3) 9,850 valves in heavy liquid service;

(4) 3,254 connectors in gas/vapor service;

(5) 12,493 connectors in light liquid service;

(6) 7,037 connectors in heavy liquid service;

(7) 190 pumps in light liquid service;

(8) 113 pumps in heavy liquid service; and

(9) 13 compressors.

[A.A.C. R18-2-306(A)(15)]

b. The following shall not count toward the component count limitations in Conditions XXIII.B.15.a(1) through XXIII.B.15.a(9):

(1) Equipment that is in vacuum service;

(2) Pumps that are equipped with dual mechanical seal systems as determined under Condition XXIII.B.2.d;

(3) Pumps that are designed with no externally actuated shaft penetrating the pump housing as determined under Condition XXIII.B.2.e;

(4) Pumps that are equipped with closed-vent systems capable of transporting any leakage from the seals to a process or to the RFG system or to a control device as determined under Condition XXIII.B.2.f;

(5) Compressors that are equipped with closed-vent systems capable of transporting any leakage from the compressor drive shaft seal to a process or a RFG system or to a control device as determined under Condition XXIII.B.3.h; and

(6) Components that are in a process unit enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device as determined under Condition XXIII.B.13.

C. Recordkeeping and Reporting Requirements

1. Recordkeeping Requirements for Equipment in VOC or Organic HAP Service

a. The Permittee may comply with the recordkeeping requirements for process units in one recordkeeping system if the system identifies each record by process unit and the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records and information required by Section XXIII.C.1 shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(a) by ref.}]

b. The Permittee shall record the following information pertaining to all equipment in each process unit subject to the requirements in Sections XXIII.B.1 through XXIII.B.12:
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b) by ref.}; A.A.C. R18-2-406(A)(4)]

(1) (i) A list of identification numbers for equipment (except connectors exempt from monitoring and recordkeeping identified in Section XXIII.B.12 and instrumentation systems) subject to the requirements of Section XXIII. Connectors need not be individually identified if all

connectors in a designated area or length of pipe subject to the provisions of Section XXIII are identified as a group, and the number of connectors subject is indicated. With respect to connectors, the list shall be complete no later than the completion of the initial survey required by Condition XXIII.B.12.b(1).

(ii) A schedule by process unit for monitoring connectors subject to Condition XXIII.B.12.a and valves subject to Condition XXIII.B.7.d.

(iii) Physical tagging of the equipment to indicate that it is in VOC or organic HAP service is not required. Equipment subject to the provisions of Section XXIII may be identified on a plant site plan, in log entries, or by other appropriate methods.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(1) by ref.}]

(2) (i) A list of identification numbers for equipment that the Permittee elects to equip with a closed-vent system and control device, under the provisions of Conditions XXIII.B.2.f, XXIII.B.3.h, or XXIII.B.4.c.

(ii) A list of identification numbers for compressors that the Permittee elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of Condition XXIII.B.3.i.

(iii) The compliance option selected for each surge control vessel and each bottoms receiver subject to the provisions of Condition XXIII.B.9.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(2) by ref.}; A.A.C. R18-2-406(A)(4)]

(3) (i) A list of identification numbers for pressure relief devices subject to Condition XXIII.B.4.a.

(ii) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions Condition XXIII.B.4.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(3) by ref.}]

(4) Identification of instrumentation systems subject to the provisions of Section XXIII. Individual components in an instrumentation system need not be identified.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(4) by ref.}]

(5) The following information shall be recorded for each dual mechanical seal system:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(6) by ref.}]

(i) Design criteria required in Conditions XXIII.B.2.d(6)(i) and XXIII.B.3.e(2) and an explanation of the design criteria; and

(ii) Any changes to these criteria and the reasons for the changes.

(6) The following information pertaining to all valves subject to Conditions XXIII.B.7.f and XXIII.B.7.g, and connectors subject to Conditions XXIII.B.12.e and XXIII.B.12.f shall be recorded:
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(b)(7) by ref.}]

(i) Identification of equipment designated as unsafe to monitor, difficult to monitor, or unsafe to inspect and the plan for monitoring or inspecting this equipment.

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(ii) A list of identification numbers for the equipment that is designated as difficult to monitor, an explanation of why the equipment is difficult to monitor, and the planned schedule for monitoring this equipment.

(iii) A list of identification numbers for connectors that are designated as unsafe to repair and an explanation why the connector is unsafe to repair.

c. For visual inspections of equipment subject to the provisions of Section XXIII [e.g., Condition XXIII.B.2.b(3) and Condition XXIII.B.2.d(4)(i)], the Permittee shall document that the inspection was conducted and the date of the inspection. The Permittee shall maintain records as specified in Condition XXIII.C.1.d for leaking equipment identified in this inspection. These records shall be retained for 2 years.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(c) by ref.}]

d. When each leak is detected as specified in Sections XXIII.B.2, XXIII.B.3, XXIII.B.7, XXIII.B.8, XXIII.B.11, and XXIII.B.12, the following information shall be recorded and kept for 2 years:
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(d) by ref.}]

(1) The instrument and the equipment identification number and the operator name, initials, or identification number.

(2) The date the leak was detected and the date of first attempt to repair the leak.

(3) The date of successful repair of the leak.

(4) Maximum instrument reading measured by EPA Reference Method 21 in appendix A to 40 CFR part 60 after it is successfully repaired or determined to be nonrepairable.

(5) "Repair delayed" and the reason for the delay if a leak is not repaired within the specified number of days after discovery of the leak.

(i) The Permittee may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by 40 CFR 63.6(e)(3), for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(ii) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(6) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(7) (i) Identification, either by list, location (area or grouping), or tagging of connectors that have been opened or otherwise had the seal broken since the last monitoring period required in Condition XXIII.B.12.b, as described in Condition XXIII.B.12.c.

(ii) The date and results of monitoring as required in Condition XXIII.B.12.c. If identification of connectors that have been opened or otherwise had the seal broken is made by location under Condition XXIII.C.1.d(7)(i), then all connectors within the designated location shall be monitored.

(8) Copies of the periodic reports as specified in Condition XXIB.C.3.d, if records are not maintained on a computerized database capable of generating summary reports from the records.

e. The dates and results of each compliance test required for compressors subject to Condition XXIII.B.3.i and the dates and results of the monitoring following a pressure release for each pressure relief device subject to Conditions XXIII.B.4.a and XXIII.B.4.b. The results shall include:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(f) by ref.}]

(1) The background level measured during each compliance test.

(2) The maximum instrument reading measured at each piece of equipment during each compliance test.

f. The Permittee shall maintain records of the information specified in Conditions XXIII.C.1.f(1) through XXIII.C.1.f(3) for closed-vent systems

and control devices subject to the provisions of Section XXIII.B.11. The records specified in Condition XXIII.C.1.f(1) shall be retained for the life of the equipment. The records specified in Conditions XXIII.C.1.f(2) and XXIII.C.1.f(3) shall be retained for 2 years.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(g) by ref.}]

(1) The design specifications and performance demonstrations specified in Conditions XXIII.C.1.f(1)(i) through XXIII.C.1.f(1)(iv).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(g)(1) by ref.}]

(i) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(ii) The dates and descriptions of any changes in the design specifications.

(iii) The flare design (i.e., steam-assisted, air-assisted, or non-assisted) and the results of the compliance demonstration required by 40 CFR 63.11(b) of 40 CFR Part 63 subpart A.

(iv) A description of the parameter or parameters monitored, as required in Condition XXIII.B.11.d, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(2) Records of operation of closed-vent systems and control devices, as specified in Conditions XXIII.C.1.f(2)(i) through XXIII.C.1.f(2)(iii).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(g)(2) by ref.}]

(i) Dates and durations when the closed-vent systems and control devices required in Sections XXIII.B.2 through XXIII.B.5 and Section XXIII.B.9 are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(ii) Dates and durations during which the monitoring system or monitoring device is inoperative.

(iii) Dates and durations of start-ups and shutdowns of control devices required in Sections XXIII.B.2 through XXIII.B.5 and Section XXIII.B.9.

(3) Records of inspections of closed-vent systems subject to Condition XXIII.B.11, as specified in Conditions XXIII.C.1.f(3)(i) and XXIII.C.1.f(3)(ii).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(g)(3) by ref.}]

(i) For each inspection conducted in accordance with Conditions XXIII.B.11.d(1) or XXIII.B.11.d(2) during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(ii) For each inspection conducted in accordance with Conditions XXIII.B.11.d(1) or XXIII.B.11.d(2) during which leaks were detected, the information specified in Condition XXIII.C.1.d shall be recorded.

g. The Permittee shall comply with the requirements of either Condition XXIII.C.1.g(1) or XXIII.C.1.g(2), as provided in Condition XXIII.C.1.g(3).
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(i) by ref.}]

(1) Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

(2) When requested by the Director, demonstrate that the piece of equipment or process is in heavy liquid service.

(3) A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

h. The Permittee, if choosing to comply with the requirements of Condition XXIII.B.13, shall maintain the following records:
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.181(k) by ref.}]

(1) Identification of the process unit(s) and the VOC or organic HAP they handle.

(2) A schematic of the process unit, enclosure, and closed-vent system.

(3) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

i. If the Permittee determines that a compressor qualifies for the hydrogen service exemption in 40 CFR 63.648, the Permittee shall also keep a record of the demonstration required by Condition XXIII.B.3.j.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(3)}]

j. All records required to be maintained or reported under Conditions XXIII.C.1.a through XXIII.C.1.i shall be retained for 5 years.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(i)(4)}]

2. Recordkeeping Requirements for Equipment in H_2S Service

Records shall be maintained of all inspections, leaks noted, repairs, and replacements made. These records shall be retained at the plant site for a period of 5 years and shall be made immediately available at the request of the Director.

[A.A.C. R18-2-406(A)(4)]

3. Reporting Requirements for Equipment in VOC or Organic HAP Service

a. The Permittee shall submit the reports listed in Conditions XXIII.C.3.a(1) and XXIII.C.3.a(2).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(a) by ref.}]

(1) A Notification of Compliance Status described in Condition XXIII.C.3.c, and

(2) Periodic Reports described in Condition XXIII.C.3.c.

b. The Permittee shall submit a Notification of Compliance Status within 150 days after initial startup.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1) & (2); 63.182(c) by ref.}]

(1) The notification shall provide the information listed in Conditions XXIII.C.3.b(1)(i) through XXIII.C.3.b(1)(iv) for each process unit subject to the requirements of Sections XXIII.B.2 through XXIII.B.12.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(c)(1) by ref.}]

(i) Process unit identification.

(ii) Number of each equipment type (e.g., valves, pumps) excluding equipment in vacuum service.

(iii) Method of compliance with the standard (for example, “monthly leak detection and repair” or “equipped with dual mechanical seals”).

(iv) Planned schedule for each phase of the requirements in Sections XXIII.B.2 and XXIII.B.7.

(2) The notification shall provide the information listed in Conditions XXIII.C.3.b(2)(i) and XXIII.C.3.b(2)(ii) for each process unit subject to the requirements in Section XXIII.B.13.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(c)(3) by ref.}]

(i) Process unit identification.

(ii) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of Section XXIII.B.11.

c. The Permittee shall submit Periodic Reports.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(d) by ref.}]

(1) A report containing the information in Conditions XXIII.C.3.c(2) and XXIII.C.3.c(3) shall be submitted semiannually starting 6 months after the Notification of Compliance Status, as required in Condition XXIII.C.3.b. The first periodic report shall cover the first 6 months after initial startup. Each subsequent periodic report shall cover the 6 month period following the preceding period.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(d)(1) by ref.}]

(2) For each process unit complying with Sections XXIII.B.2 through XXIII.B.12, the summary information listed in Conditions XXIII.C.3.c(2)(i) through XXIII.C.3.c(2)(x) for each monitoring period during the 6-month period.
[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(d)(2) by ref.}]

(i) The number of valves for which leaks were detected as described in Condition XXIII.B.7.b, the percent leakers, and the total number of valves monitored;

(ii) The number of valves for which leaks were not repaired as required in Condition XXIII.B.7.d, identifying the number of those that are determined nonrepairable;

(iii) The number of pumps for which leaks were detected as described in Condition XXIII.B.2.b, the percent leakers, and the total number of pumps monitored;

(iv) The number of pumps for which leaks were not repaired as required in Condition XXIII.B.2.c;

(v) The number of compressors for which leaks were detected as described in Condition XXIII.B.3.f;

(vi) The number of compressors for which leaks were not repaired as required in Condition XXIII.B.3.g;

(vii) The number of connectors for which leaks were detected as described in Condition XXIII.B.12.a, the percent of connectors leaking, and the total number of connectors monitored;

(viii) The number of connectors for which leaks were not repaired as required in Condition XXIII.B.12.d, identifying the number of those that are determined nonrepairable;

(ix) The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible; and

(x) The results of all monitoring to show compliance with Conditions XXIII.B.3.i, XXIII.B.4.a, and XXIII.B.11.d conducted within the semiannual reporting period.

(3) The information listed in Condition XXIII.C.3.b for the Notification of Compliance Status for process units with later compliance dates. Any revisions to items reported in earlier Notification of Compliance Status, if the method of compliance has changed since the last report.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.654(d)(1); 63.182(d)(4) by ref.}]

4. Recordkeeping for Benzene Emission Limitations

a. The Permittee shall maintain readily available records indicating the total number of components of the equipment types listed in Conditions XXIII.B.15.a(1) through XXIII.B.15.a(9), in organic HAP service, at the entire source.

[A.A.C. R18-2-306(A)(15)]

b. The requirements of Condition XXIII.C.4.a are designed to minimize benzene emissions. These requirements are not federally enforceable.

[A.A.C. R18-2-306(B)(2)]

D. Testing Requirements

1. The Permittee shall comply with the test methods and procedural requirements in Conditions XXIII.D.2 through XXIII.D.4.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(a) by ref.}]

2. Monitoring, as required under Conditions XXIII.B.1 through XXIII.B.12, shall comply with the following requirements:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b) by ref.}]

a. Monitoring shall comply with EPA Reference Method 21 in appendix A to 40 CFR part 60.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(1) by ref.}]

b. Except as provided for in Condition XXIII.D.2.c, the detection instrument shall meet the performance criteria of EPA Reference Method 21, except the instrument response factor criteria in Section 3.1.2(a) of EPA Reference Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP or VOC, the average stream response factor may be calculated on an inert-free basis. The

response factor may be determined at any concentration for which monitoring for leaks will be conducted.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(2)(i) by ref.}]

c. If no instrument is available at the plant site that will meet the performance criteria specified in Condition XXIII.D.2.a, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph Condition XXIII.D.2.b.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(2)(ii) by ref.}]

d. The instrument shall be calibrated before use on each day of its use by the procedures specified in EPA Reference Method 21.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(3) by ref.}]

e. Calibration gases shall be:

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(4) by ref.}; R18-2-406(A)(4)]

(1) Zero air (less than 10 parts per million of hydrocarbon in air).

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(4)(i) by ref.}; R18-2-406(A)(4)]

(2) A mixture of methane or other compounds, as applicable, and air at a concentration of approximately, but less than, 500 ppmv for all equipment, except as provided in Condition XXIII.D.2.e(3). A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in Condition XXIII.D.2.a. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(4)(ii) by ref.}; R18-2-406(A)(4)]

(3) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 ppmv. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 ppmv above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 ppmv. If only one scale on an instrument will be used during monitoring, the Permittee need not calibrate the scales that will not be used during that day's monitoring.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(4)(iii) by ref.}; R18-2-406(A)(4)]

f. Monitoring shall be performed when the equipment is in VOC or organic HAP service or is in use with any other detectable gas or vapor.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(b)(5) by ref.}; R18-2-406(A)(4)]

3. The Permittee may elect to adjust or not to adjust the instrument readings for background. If the Permittee elects not to adjust instrument readings for background, the Permittee shall monitor the equipment according to the procedures specified in Conditions XXIII.D.2.a through XXIII.D.2.e. In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If the Permittee elects to adjust instrument readings for background, the Permittee shall monitor the equipment according to the procedures specified in Conditions XXIII.D.3.a through XXIII.D.3.d.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(c) by ref.}]

a. The requirements of Conditions XXIII.D.2.a through XXIII.D.2.d shall apply.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(c)(1) by ref.}]

b. The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(c)(2) by ref.}]

c. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in EPA Reference Method 21 in appendix A to 40 CFR part 60.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(c)(3) by ref.}]

d. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppmv for determining compliance.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(c)(4) by ref.}]

4. Determination of Whether Equipment is in VOC or Organic HAP Service

a. Each piece of equipment within a process unit that can reasonably be expected to contain equipment in VOC or organic HAP service is presumed to be in VOC or organic HAP service unless the Permittee demonstrates that the piece of equipment is not in VOC or organic HAP service. For a piece of equipment to be considered not in VOC or organic HAP service, it must be determined that the percent VOC and organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent VOC and organic HAP content of the process fluid that is contained in or contacts equipment, EPA Reference Method 18 in appendix A to 40 CFR part 60 shall be used.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(d)(1) by ref.}; R18-2-406(A)(4)]

b. The Permittee may use good engineering judgment rather than the procedures in Condition XXIII.D.4.a to determine that the VOC content or the organic HAP content does not exceed 5 percent by weight. When the Permittee and the Director do not agree on whether a piece of equipment is not in VOC or organic HAP service, however, the procedures in Condition XXIII.D.d.4.a shall be used to resolve the disagreement.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(d)(2)(i) by ref.}; R18-2-406(A)(4)]

c. Conversely, the Permittee may determine that the VOC or organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that VOC or organic HAP is less than 3 percent.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(d)(2)(ii) by ref.}; R18-2-406(A)(4)]

d. If the Permittee determines that a piece of equipment is in VOC or organic HAP service, the determination can be revised after following the procedures in Condition XXIII.D.4.a, or by documenting that a change in the process or raw materials no longer causes the equipment to be in VOC or organic HAP service.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(d)(3) by ref.}; R18-2-406(A)(4)]

e. Samples used in determining the percent VOC and organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

[A.A.C. R18-2-1101(B)(23) {40 CFR 63.648(a); 63.180(d)(4) by ref.}; R18-2-406(A)(4)]

E. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), A.A.C. R18-2-1101(B)(23).

[A.A.C. R18-2-325]

XXIV. EMERGENCY FLARES

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Emergency Flare No. 1 (S-27100)	Natural gas pilot/purge gas; steam assist	Not applicable	EP-13
Emergency Flare No. 2 (S-27200)	Natural gas pilot/purge gas; steam assist	Not applicable	EP-21

B. Emission Limits and Standards

1. The Permittee shall ensure that the Emergency Flares Nos. 1 and 2 are designed, installed, and operated in accordance with the following:

   a. Flares shall be operated with a pilot flame present at all times when any refinery process equipment is operating.

   b. Flares shall be steam-assisted.

   c. Flares shall be designed for and operated with no visible emissions.

   d. Flares shall be designed for and operated with an exit velocity less than 60 ft/sec under all operating conditions.

   e. Flares shall employ natural gas purge such that the net heating value of the gas being combusted is 300 Btu/scf or greater.

   [A.A.C. R18-2-331(A)(3)(d), (e), and (f); R18-2-406(A)(4)]

2. Except as provided in Condition XXIV.B.3, the Permittee shall not cause or allow to be combusted in the Emergency Flares Nos. 1 and 2 any gases other than pipeline-quality natural gas.

   [A.A.C. R18-2-306.01(A) and R18-2-331(A)(3)(a)]

3. Process upset gases may be combusted in the Emergency Flares Nos. 1 and 2 during malfunctions. For the purposes of this Condition XXIV.B.3, gases that are generated as a result of a startup or shutdown are not process upset gases.

   [A.A.C. R18-2-306(A)(2)]

4. The Permittee shall prepare a flare system operation, maintenance, and monitoring plan according to the requirements in Condition XXIV.C.9 and shall operate at all times according to the procedures in the plan.

   [A.A.C. R18-2-406(A)(4)]

5. The requirements of Conditions XXIV.B.1 through XXIV.B.4 apply at all times, including periods of startup, shutdown, and malfunction.

[A.A.C. R18-2-306(A)(2) and R18-2-406(A)(4)]

6. The Permittee shall prepare a flare system operation, maintenance, and monitoring plan according to the requirements in Condition XXIV.C.9 and shall operate at all times according to the procedures in the plan.

[A.A.C. R18-2-406(A)(4)]

7. The Permittee shall not cause or allow to be combusted in the Emergency Flares any RFG which contains H_2S in excess of 230 mg/dscm (0.10 gr/dscf), based on a rolling 3-hour average.

[A.A.C. R18-2-901(14) {40 CFR 60.104(a)(1)}]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. The requirements of Conditions XXIV.C.2 through XXIV.C.9 apply at all times, including periods of startup, shutdown, and malfunction.

[A.A.C. R18-2-306(A)(2) and R18-2-406(A)(4)]

2. For the purposes of Conditions XXIV.C.2 through XXIV.C.9, the term "flare event" shall be interpreted to mean any instance when gases other than pipeline-quality natural gas are combusted in a flare. For any flare event that lasts longer than 24 hours, each calendar day shall constitute a separate flare event.

[A.A.C. R18-2-306(A)(2) and R18-2-406(A)(4)]

3. The Permittee shall install, maintain, and continuously operate a thermocouple, infrared monitor, or equivalent device to detect the presence of a flame.

   a. This device shall include a recorder and shall provide continuous records indicating the presence of a flame.

   b. Records required by Condition XXIV.C.3.a shall be maintained in a permanent form suitable for inspection.

[A.A.C. R18-2-406(A)(4)]

4. The Permittee shall demonstrate compliance with Condition XXIV.B.1.a using the data provided by the monitoring device required by Condition XXIV.C.3.

[A.A.C. R18-2-406(A)(4)]

5. The Permittee shall install, maintain, and continuously operate continuous flow monitoring devices for measuring the flow of gases to each flare, in accordance with the following requirements.

[A.A.C. R18-2-306.01(A), R18-2-331(A)(3)(c), and R18-2-406(A)(4)]

   a. The continuous flow monitoring devices must be sufficient to measure the flow rates of pilot gas, purge gas, and other gases to each flare.

[A.A.C. R18-2-306.01(A) and R18-2-406(A)(4)]

   b. Each flow monitoring device shall meet the following specifications:

(1) The velocity range shall be at least 1 to 250 ft/sec.

(2) The repeatability shall be at least ± 1 percent of the reading within a flow velocity range of 1 to 100 ft/sec.

(3) The accuracy shall be at least ± 5 percent of the reading over a flow velocity range of 1 to 250 ft/sec.

(4) The installation shall conform to applicable AGA, ANSI, API, or equivalent standards and shall have hot tap capability.

(5) The flow rate determination shall conform to applicable AGA, ANSI, API, or equivalent standards.

(6) The volumetric gas flow rate, corrected to 1 atmosphere pressure and 68 ºF, shall be determined and recorded on a continuous basis.

[A.A.C. R18-2-306.01(A) and R18-2-406(A)(4)]

c. All data generated by the flow monitoring devices required by Condition XXIV.C.5.b shall be continuously recorded by strip chart recorders or computers.

(1) If a strip chart recorder is used, the strip chart must have a minimum chart width of 10 inches, a readability of 0.5 percent of the span, and a minimum of 100 chart divisions.

(2) If a computer is used, the computer must have the capability to generate one-minute average data from the data that are continuously generated by the flow meters and the on/off limit switch.

[A.A.C. R18-2-306.01(A) and R18-2-406(A)(4)]

6. The Permittee shall take the following actions for each flare event.

a. Identify and record the cause of the flare event and the process system(s) involved.

b. Identify and record the date and time that the flare event started and the duration of the flare event.

c. Within 15 minutes after the start of the flare event, submit notification to the Director, indicating (based on available information) the cause of the flare event, the process system(s) involved, and the anticipated duration of the flare event.

d. Measure and record the gas flow to each flare, using continuous flow monitoring devices that meet the requirements of Condition XXIV.C.5.

e. Beginning no more than 15 minutes after the start of the flare event, perform visible emissions observations for the duration of the flare event, using EPA Reference Method 22 in appendix A to 40 CFR part 60. Visible emissions observations are not required between sunset and sunrise or during other periods when valid observations using Method 22 are not possible.

f. Except as provided by Condition XXIV.C.8, take a representative sample of the gas flow to each flare in accordance with Condition XXIV.C.7.

g. Determine and record the higher (gross) heating value of the gas flow to each flare in accordance with Condition XXIV.C.7.

h. Determine and record the total sulfur content of the gas flow to each flare in accordance with Condition XXIV.C.7.

i. Calculate and record the total sulfur dioxide emissions from the flare during the flare event.

j. Within 24 hours after the end of the flare event, submit notification to the Director, summarizing all information required to be recorded pursuant to Conditions XXIV.C.6 a through XXIV.C.6.i.

[A.A.C. R18-2-406(A)(4)]

7. The sampling and analysis required by Conditions XXIV.C.6.f through XXIV.C.6.h shall be performed as follows:

a. Except as provided in Conditions XXIV.C.7.d and XXIV.C.8, a representative sample of the gas flow to each flare shall be taken within 30 minutes after the start of the flare event.

b. The sample shall be taken at the location indicated in the flare system operation, maintenance, and monitoring plan required by Condition XXIV.C.9.

c. The sample shall be analyzed as follows:

(1) The higher (gross) heating value shall be determined by ASTM Method D 2382-88, ASTM Method D 3588-91 or ASTM Method D 4891-89.

(2) The total sulfur content shall be determined by ASTM Method D 5504-94.

(3) Alternative analytical methods may be used, based on prior written approval by the Director.

d. If the duration of the flare event is less than 30 minutes, and no representative sample is taken prior to the end of the flare event, an estimation of the heating value and total sulfur content shall be made,

consistent with the procedures listed in the flare system operation, maintenance, and monitoring plan required by Condition XXIV.C.9.

[A.A.C. R18-2-406(A)(4)]

8. Sampling and analyses of representative samples for heating values and sulfur contents pursuant to Condition XXIV.C.7 shall not be required for any flare event that:

   a. Is a result of a catastrophic event including, but not limited to, a major fire or an explosion at the refinery; or

   b. Constitutes a safety hazard to the sampling personnel during the entire flare event at the sampling location indicated in the flare system operation, maintenance, and monitoring plan required by Condition XXIV.C.9.

   c. If no sample is collected at the sampling location indicated in the flare system operation, maintenance, and monitoring plan pursuant to Condition XXIV.C.8.b, the Permittee shall collect a representative sample at an alternative location where it is safe. If there is no safe location for collection of a representative sample, the Permittee shall document that fact.

[A.A.C. R18-2-406(A)(4)]

9. The Permittee shall prepare a flare system operation, maintenance, and monitoring plan in accordance with the following requirements.

   a. The plan shall include, at a minimum, the following:

      (1) A facility plot plan showing the location of each Emergency Flare in relation to the refinery layout.

      (2) Information regarding design capacity, operation and maintenance for each flare.

      (3) Information regarding design pilot gas and purge gas flow rate, in standard cubic feet per minute, for each flare.

      (4) Drawing(s), preferably to scale with dimensions, and an “as built” process flow diagram of the flare system. The drawing(s) shall identify major components of the flare system, such as flare header, flare stack, flare tips or burners, purge gas system, pilot gas systems, ignition systems, assist systems, water seals, knockout drums and molecular seals.

      (5) A representative flow diagram showing the interconnections of the gas flare system(s) with vapor recovery system(s), process units and other equipment as applicable.

      (6) A complete description of the assist system process control, flame detection system and pilot ignition system.

(7) A complete description of the flaring process which describes the method of operation of the flares (e.g. sequential, etc.).

(8) A complete description of the vapor recovery system(s) which have interconnection to a flare, such as compressor descriptions, design capacities of each compressor and the vapor recovery system, and the method to be used to determine and record the amount of vapors recovered.

(9) A detailed description of manufacturer's specifications, including but not limited to, make, model, type, range, precision, accuracy, calibration, maintenance, and quality assurance procedures for each flow metering device.

(10) A complete description of each on/off flow indicator, including the following:

(a) The data used to determine and to set the actuating and deactuating of the flow indicator; and

(b) The method to be used to verify the actuating and deactuating settings for each flow indicator.

(11) A complete description of proposed analytical and sampling methods or estimation methods, if applicable, for determining higher (gross) heating value and total sulfur content of any gases combusted in a flare during a flare event.

(12) A complete description of proposed locations for obtaining representative samples of the gas flow to each flare during a flare event.

(13) A complete description of the proposed data recording, collection and management for each flare monitoring system.

(14) A complete description of proposed method to determine, monitor and record total volume of gases vented to a flare for each flare event.

(15) A complete description of the proposed method to alert personnel designated to collect samples that a recordable flare event has started.

(16) A complete description of any proposed alternative criteria to determine a recordable flare event for each specific flare, if any, and detailed information used for the basis of establishing such criteria.

(17) A complete description of the methods to determine emissions associated with recordable events during periods when the flare monitoring system is out of service.

b. The Permittee shall submit the flare system operation, maintenance, and monitoring plan to the Director for approval at least 60 days prior to initial startup of any refinery process equipment.

[A.A.C. R18-2-406(A)(4)]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(14).

[A.A.C. R18-2-325]

XXV. STEAM BOILERS

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measure	Emission Point ID Number
Steam Boiler No. 1 (S-20110)	Natural gas-fired, 419 MMBtu/hr heat input (HHV)	Low-NO_X burners and flue gas recirculation	EP-8
Steam Boiler No. 2 (S-20120)	Natural gas-fired, 419 MMBtu/hr heat input (HHV)	Low-NO_X burners and flue gas recirculation	EP-9

B. Emission Limits and Standards

1. Operational Limitations

a. The Permittee shall not cause or allow to be combusted in Steam Boiler No. 1 or No. 2 any fuel other than pipeline-quality natural gas.

[A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow the heat input to Steam Boiler No. 1 or No. 2 to exceed 419 MMBtu per hour (HHV), based on an hourly rolling 24-hour average.

[A.A.C. R18-2-306(A)(2)]

2. Nitrogen Oxides Emission Standards

a. The Permittee shall not cause or allow to be emitted to the atmosphere from Steam Boiler No. 1 or No. 2 any gases which contain NO_X in excess of 0.0125 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause or allow to be emitted to the atmosphere from either Steam Boiler No. 1 or No. 2 any gases which contain NO_X in excess of 0.20 lb per MMBtu heat input (HHV).

[A.A.C. R18-2-901(4) {40 CFR 60.44b(l)(1)}]

(1) The NO_X emission limitation in Condition XXV.B.2.b is based on a daily rolling 30-day average.

[A.A.C. R18-2-901(4) {40 CFR 60.44b(i)}]

(2) The NO_X emission limitation in Condition XXV.B.2.b applies at all times including periods of startup, shutdown, or malfunction.

[A.A.C. R18-2-901(4) {40 CFR 60.44b(h)}]

3. Carbon Monoxide Emission Standard

The Permittee shall not cause or allow to be emitted to the atmosphere from Steam Boiler No. 1 or No. 2 any gases which contain CO in excess of 0.016 lb per MMBtu heat input (HHV), based on an hourly rolling three-hour average.

[A.A.C. R18-2-406(A)(4)]

4. Organic HAP Emission Standard

a. Except as provided in Condition XXV.B.4.b, the Permittee shall not cause or allow to be emitted to the atmosphere from Steam Boiler No. 1 or No. 2 any gases which contain CO in excess of 400 ppmvd, corrected to 3.0 percent oxygen, based on a 30-day rolling average.

[40 CFR 63.7500(a)(1)]

b. The carbon monoxide work practice standard in Condition XXV.B.4.a shall not apply during periods of startup, shutdown, malfunction, or when the affected heater is operating at less than 50 percent of rated capacity.

[40 CFR 63.7540(a)(10)(ii)]

c. The Permittee shall develop and implement a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

[40 CFR 63.7505(e)]

d. The Permittee shall always operate and maintain the affected source, including air pollution control and monitoring equipment, according to the provisions in 40 CFR § 63.6(e)(1)(i).

[40 CFR 63.7505(b)]

e. During periods of startup, shutdown, and malfunction, the Permittee shall operate in accordance with the startup, shutdown, and malfunction plan.

[40 CFR 63.7540(c)]

f. Consistent with 40 CFR §§ 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Administrator's satisfaction that source operation was in accordance with the startup, shutdown, and malfunction plan. The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR § 63.6(e).

[40 CFR 63.7540(d)]

C. Air Pollution Control Equipment

1. At all times when Steam Boiler No. 1 is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the flue gas recirculation system in a manner consistent with good air pollution control practice for minimizing emissions of NO_X.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

2. At all times when Steam Boiler No. 2 is in operation, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate the low-NO_X burners and the flue gas recirculation system in a manner consistent with good air pollution control practice for minimizing emissions of NO_X.

[A.A.C. R18-2-331(A)(3)(d) & (e), R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. Monitoring for Fuel Usage

The Permittee shall monitor and record the fuel usage and heat input to Steam Boiler No. 1 and No. 2 in accordance with the following:

a. For each hour of operation of a particular boiler, the type of fuel combusted and the heat input shall be monitored and recorded.

b. The 24-hour average heat input rate for each boiler shall be calculated as the arithmetic average of the 24 most recent 1-hour heat input rate values recorded in accordance with Condition XXV.D.1.a.

[A.A.C. R18-2-306(A)(3)(c)]

2. The Permittee shall install, calibrate, maintain, and continuously operate continuous emission monitoring systems for monitoring and recording the emissions of NO_X, CO, and O_2 in the gases emitted to the atmosphere from Steam Boiler No. 1 and No. 2.

[A.A.C. R18-2-901(4) {40 CFR 60.48b(b)(1)}, A.A.C. R18-2-331(A)(3)(c) R18-2-406(A)(4)]

3. Performance Specifications

a. The NO_X continuous emission monitoring systems required by Condition XXV.D.2 shall meet the requirements of Performance Specification 2, *Specifications and test procedures for SO_2 and NO_X continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

[A.A.C. R18-2-406(A)(4)]

b. The CO continuous emission monitoring systems required by Condition XXV.D.2 shall meet the requirements of Performance Specification 4a, *Specifications and test procedures for carbon monoxide continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60.

[A.A.C. R18-2-406(A)(4)]

c. The O_2 continuous emission monitoring systems required by Condition XXV.D.2 shall meet the requirements of Performance Specification 3, *Specifications and test procedures for O_2 and CO_2 continuous emission monitoring systems in stationary sources*, in appendix B to 40 CFR part 60. EPA Reference Methods 3 or 3A shall be used for conducting the relative accuracy evaluations.

4. Each continuous emission monitoring system required by Condition XXV.D.2 shall be subjected to the quality assurance procedures set forth in appendix F to 40 CFR part 60.

[A.A.C. R18-2-406(A)(4)]

5. The Permittee shall prepare, submit, and implement a monitoring plan for each continuous emission monitoring system required by Condition XXV.D.2.

   a. The monitoring plan shall include procedures for dealing with data gaps based on the procedures contained in 40 CFR 75, subpart D (§ 75.30).

   b. The monitoring plan shall be submitted to the Director for approval at least 120 days prior to the date on which the initial performance test required under Condition XXV.E is conducted.

[A.A.C. R18-2-406(A)(4)]

6. For each continuous emission monitoring system required by Condition XXV.D.2, the Permittee shall meet the following requirements:

   a. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five years following the date of such measurements, maintenance, reports, and records.

   b. Each continuous monitoring system shall be installed and operational prior to conducting the required initial performance tests. Verification of operational status shall, at a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of these devices. Notification of the operational status of the continuous monitoring system shall be provided to the Director within 30 days after the system becomes operational, or by the date on which the initial performance test is conducted, whichever occurs first.

   c. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, the Permittee shall meet minimum frequency of operation requirements as follows: the continuous monitoring system shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

   d. For continuous monitoring system measurements, one-hour arithmetic averages shall be computed from four or more data points equally spaced over each one-hour period.

   e. Pollutant emission rates shall be expressed in lb per MMBtu heat input (HHV).

(1) Determination of NO_X emission rate shall be performed in accordance with EPA Reference Method 19.

(2) Determination of CO emission rate shall be performed using the procedures described in EPA Reference Method 19. The measured CO concentration in ppm shall be multiplied by 7.26×10^{-8} to obtain concentration in terms of lb per standard cubic foot.

[A.A.C. R18-2-406(A)(4)]

7. Compliance with the NO_X and CO emission limitations in Conditions XXV.B.2.a and XXV.B.3, respectively, shall be determined using data from the continuous emission monitoring systems required by Condition XXV.D.2.

[A.A.C. R18-2-406(A)(4)]

8. NSPS Monitoring, Recordkeeping, and Reporting Requirements

a. The NO_X continuous emission monitoring systems required by Condition XXV.D.2 shall be operated and data recorded during all periods of operation of Steam Boiler Nos. 1 and 2 except for continuous monitoring system breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments.

[A.A.C. R18-2-901(4) {40 CFR 60.48b(c)}]

b. The 1-hour average NO_X emission rates measured by the continuous emission monitoring systems required under Condition XXV.D.2 shall be expressed in lb per MMBtu heat input (HHV). Each 1-hour average shall be calculated using the data points required under 40 CFR [section] 60.13(h)(2).

[A.A.C. R18-2-901(4) {40 CFR 60.48b(d)}]

c. For Steam Boiler Nos. 1 and 2, following the date on which the initial performance test is completed or is required to be completed under 40 CFR 60.8, whichever date comes first, the Permittee shall calculate a new 30-day rolling average emission rate for each boiler operating day. The 30-day rolling average emission rate shall be calculated as the average of all of the hourly NO_X emission data for the preceding 30 boiler operating days and shall be expressed in lb per MMBtu heat input (HHV).

[A.A.C. R18-2-901(4) {40 CFR 60.46b(e)(3)}]

d. When NO_X emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each boiler operating day, in at least 22 out of 30 successive boiler operating days.

[A.A.C. R18-2-901(4) {40 CFR 60.48b(f)}]

e. The Permittee shall maintain records of the following information for each boiler operating day:

(1) Calendar date.

(2) The average hourly NO_X emission rates (expressed as NO_2) (lb per MMBtu heat input) measured.

(3) The 30-day average NO_X emission rates (lb per MMBtu heat input Btu heat input) calculated at the end of each boiler operating day from the measured hourly NO_X emission rates for the preceding 30 boiler operating days.

(4) Identification of the boiler operating days when the calculated 30-day average NO_X emission rates are in excess of the NO_X emissions standards in Condition XXV.B.2.b, with the reasons for such excess emissions as well as a description of corrective actions taken.

(5) Identification of the boiler operating days for which NO_X emission data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.

(6) Identification of the times when NO_X emission data have been excluded from the calculation of average NO_X emission rates and the reasons for excluding data.

(7) Identification of F factor used for NO_X emission calculations, method of determination, and type of fuel combusted.

(8) Identification of the times when the NO_X emission concentration exceeded full span of the NO_X continuous emission monitoring system.

(9) Description of any modifications to the NO_X or O_2 continuous emission monitoring system that could affect the ability of the continuous emission monitoring system to comply with Performance Specification 2 or 3 in appendix B to 40 CFR part 60.

(10) Results of daily NO_X CEMS drift tests and quarterly accuracy assessments as required under Procedure 1 in appendix F to 40 CFR part 60.

[A.A.C. R18-2-901(4) {40 CFR 60.49b(g)}]

f. For the purposes of Conditions XXV.B.8.c through XXV.B.8.e, the term "boiler operating day" means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the particular boiler. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

[A.A.C. R18-2-901(4) {40 CFR 60.46b(e)(3) and 60.48b(f)}]

g. The Permittee shall submit reports containing the information recorded under Condition XXV.D.8.e.

[A.A.C. R18-2-901(4) {40 CFR 60.49b(i) and 40 CFR 60.49b(w)}]

(1) The reporting period for the reports required by Condition XXV.D.8.g is each six-month period.

[A.A.C. R18-2-901(4) {40 CFR 60.49b(w)}]

(2) All reports required by Condition XXV.D.8.g shall be submitted to the Director and shall be postmarked by the 30th day following the end of the reporting period.

[A.A.C. R18-2-901(4) {40 CFR 60.49b(w)}]

9. The following shall be considered periods of excess emissions:

a. All 3-hour periods for which the NO_X emission rate to the atmosphere as determined in accordance with Conditions XXV.D.2 and XXV.D.6 exceeds the emission standard in Condition XXV.B.2.a.

[A.A.C. R18-2-406(A)(4)]

b. All 3-hour periods for which the CO emission rate to the atmosphere as determined in accordance with Conditions XXV.D.2 and XXV.D.6 exceeds the emission standard in Condition XXV.B.3. [A.A.C. R18-2-406(A)(4)]

c. For the purpose of reports under 40 CFR 60.7(c), the following shall be considered periods of excess emissions:

All 30-day periods for which the NO_X emission rate to the atmosphere as determined in accordance with Condition XXV.D.8.c exceeds the emission standard in Condition XXV.B.2.b.

[A.A.C. R18-2-901(4) {40 CFR 60.44b(l)(1) and 40 CFR 60.49b(h)(4)}]

10. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit.

[A.A.C. R18-2-306(A)(5)(b)]

11. Monitoring and Recordkeeping for the Organic HAP Emission Standard

a. The Permittee shall install, operate, and maintain continuous emission monitoring systems for monitoring and recording the emissions of CO in gases emitted to the atmosphere from the Steam Boiler Nos. 1 and 2. The CO continuous emission monitoring systems required by Condition XXV.D.2 may be used to meet this requirement.

[40 CFR 63.7525(a), 40 CFR 63.7540(a)(10)(ii)]

(1) Each continuous emission monitoring system shall be installed, continuously operated, and maintained according to Performance Specification 4A of 40 CFR part 60, appendix B, and according to the site-specific monitoring plan developed according to Condition XXV.D.11.b. [40 CFR 63.7505(d)(4), 40 CFR 63.7525(a)(1)]

(2) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times that the affected heater is operating.

[40 CFR 63.7535(b)]

(3) Each continuous emission monitoring system must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 63.7525(a)(3)]

(4) The continuous emission monitoring system data shall be reduced as specified in 40 CFR § 63.8(g)(2).

[40 CFR 63.7525(a)(4)]

(5) The Permittee shall calculate and record a 30-day rolling average emission rate on a daily basis. A new 30-day rolling average emission rate is calculated as the average of all of the hourly CO emission data for the preceding 30 operating days.

[40 CFR 63.7525(a)(5)]

(6) The Permittee shall not use data recorded during monitoring malfunctions, associated repairs, or required quality assurance or control activities in data averages and calculations used to report emission or operating levels. The Permittee shall use all the data collected during all other periods in assessing the operation of the affected boiler. The Permittee shall not use data recorded during periods when the boiler is operating at less than 50 percent of its rated capacity.

[40 CFR 63.7535(c)]

(7) For purposes of calculating data averages, the Permittee shall not use data recorded during periods of monitoring malfunctions, associated repairs, out-of-control periods, required quality assurance or control activities, or when the affected boiler is operating at less than 50 percent of its rated capacity. The Permittee shall use all the data collected during all other periods in assessing compliance. Any period for which the monitoring system is out of control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

[40 CFR 63.7525(a)(6)]

b. For each continuous emission monitoring system required by Condition XXV.D.11.a, the Permittee shall develop a site-specific monitoring plan.

[40 CFR 63.7505(d)]

(1) The Permittee shall submit to the Administrator for approval each site-specific monitoring plan required by Condition XXV.D.11.b.

The Permittee shall submit each site-specific monitoring plan at least 60 days before the initial performance evaluation required by Condition XXV.D.11.c.

[40 CFR 63.7505(d)(1)]

(2) Each site-specific monitoring plan required by Condition XXV.D.11.b shall address the following:

[40 CFR 63.7505(d)(1), 40 CFR 63.7505(d)(2)]

(a) Installation of the continuous emission monitoring system sampling probe or other interface at a measurement location relative to the affected boiler such that the measurement is representative of control of the exhaust emissions (e.g., on or downstream of the last control device);

[40 CFR 63.7505(d)(1)(i)]

(b) Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems; and

[40 CFR 63.7505(d)(1)(ii)]

(c) Performance evaluation procedures and acceptance criteria (e.g., calibrations).

[40 CFR 63.7505(d)(1)(iii)]

(d) Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR § 63.8(c)(1), (3), and (4)(ii);

[40 CFR 63.7505(d)(2)(i)]

(e) Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR § 63.8(d); and

[40 CFR 63.7505(d)(2)(ii)]

(f) Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR § 63.10(c), (e)(1), and (e)(2)(i).

[40 CFR 63.7505(d)(2)(iii)]

c. The Permittee shall conduct a performance evaluation of each continuous emission monitoring system in accordance with the site-specific monitoring plan, according to the requirements in 40 CFR § 63.8, and according to Performance Specification 4A of 40 CFR part 60, appendix B.

[40 CFR 63.7505(d)(3), 40 CFR 63.7525(a)(2)]

d. For the Steam Boilers No. 1 and No. 2 , the Permittee shall demonstrate initial compliance with the work practice standard in Condition XXV.B.4.a no later than 180 days after startup of said boiler. The initial compliance demonstration is the performance evaluation required by Condition XXV.D.11.c.

[40 CFR 63.7510(c), 40 CFR 63.7510(g)]

e. For each continuous emission monitoring system required by Condition XXV.D.11.a, the Permittee shall maintain records as follows.

[40 CFR 63.7540(a)(10), 40 CFR 63.7555]

(1) A copy of each notification and report submitted to comply with Conditions XXV.D.12 and XXV.D.13, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report, according to the requirements in 40 CFR § 63.10(b)(2)(xiv).

[40 CFR 63.7555(a)(1)]

(2) The records in 40 CFR § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

[40 CFR 63.7555(a)(2)]

(3) Records of compliance demonstrations and performance evaluations as required in 40 CFR § 63.10(b)(2)(viii).

[40 CFR 63.7555(a)(3)]

(4) Records described in 40 CFR § 63.10(b)(2)(vi) through (xi).

[40 CFR 63.7555(b)(1)]

(5) Previous (i.e., superseded) versions of the performance evaluation plan as required in 40 CFR § 63.8(d)(3).

[40 CFR 63.7555(b)(3)]

(6) Request for alternatives to relative accuracy test for continuous emission monitoring systems as required in 40 CFR § 63.8(f)(6)(i).

[40 CFR 63.7555(b)(4)]

(7) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7555(b)(5)]

(8) Records of all monitoring data and calculated averages for carbon monoxide to show continuous compliance with the work practice standard in Condition XXV.B.4.a.

[40 CFR 63.7555(c)]

(9) Records must be in a form suitable and readily available for expeditious review, according to 40 CFR § 63.10(b)(1).

[40 CFR 63.7560(a)]

(10) Each record shall be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR § 63.10(b)(1). Records can be kept off site for the remaining 3 years.

[40 CFR 63.7560(c)]

12. Notifications for the Organic HAP Emission Standard

The Permittee shall submit notifications as follows:

a. All of the applicable notifications in 40 CFR §§ 63.7(b) and (c), 63.8 (e), (f)(4) and (6), and 63.9 (b) through (h) by the dates specified.

[40 CFR 63.7545(a)]

b. As specified in 40 CFR § 63.9(b)(3), the Permittee shall submit an Initial Notification not later than 120 days after becoming subject to Condition XXV.B.4.a. The Initial Notification shall include the information required by 40 CFR § 63.9(b).

[40 CFR 63.7545(c)]

c. For each initial compliance demonstration required by Condition XXV.D.11.d, the Permittee shall submit a Notification of Compliance Status according to the requirements in 40 CFR § 63.9(h)(2)(ii). The Permittee shall submit the Notification of Compliance Status before the close of business on the 60th day following the completion of the initial compliance demonstration according to 40 CFR § 63.10(d)(2). The Notification of Compliance Status report shall contain all information specified in Conditions XXV.D.12.c(1) through XXV.D.12.c(5).

[40 CFR 63.7530(e), 40 CFR 63.7545(e)]

(1) A description of the affected boiler including identification of which subcategory the boiler is in, the capacity of the boiler, a description of the add-on controls used on the boiler, and description of the fuel(s) burned.

[40 CFR 63.7545(e)(1)]

(2) Summary of the results of all calculations conducted to demonstrate initial compliance.

[40 CFR 63.7545(e)(2)]

(3) A signed certification that the Permittee has met all applicable work practice standards.

[40 CFR 63.7545(e)(6)]

(4) A summary of the CO emissions monitoring data to show that the work practice standard in Condition XXV.B.4.a has been met.

[40 CFR 63.7545(e)(7)]

(5) If a deviation from the work practice standard has occurred, the Notification of Compliance Status report shall include descriptions of the deviation, the duration of the deviation, and the corrective action taken.

[40 CFR 63.7545(e)(9)]

13. Reporting for the Organic HAP Emission Standard

The Permittee shall report each instance in which the work practice standard in Condition XXV.B.4.a was not met. The Permittee shall also report each instance

during a startup, shutdown, or malfunction when the work practice standard was not met. These instances are deviations from the work practice standard. These deviations must be reported according to the requirements in Conditions XXV.D.13.a through XXV.D.13.c.

[40 CFR 63.7540(b)]

a. The Permittee shall submit compliance reports as follows:

[40 CFR 63.7550(a)]

(1) Compliance reports shall be submitted semiannually at the time of compliance certifications.

[40 CFR 63.7550(b)(5)]

(2) The compliance report shall contain the information required in Conditions XXV.D.13.b(2)(a) through XXV.D.13.b(2)(f).

[40 CFR 63.7550(c)]

(a) Company name and address.

[40 CFR 63.7550(c)(1)]

(b) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

[40 CFR 63.7550(c)(2)]

(c) Date of report and beginning and ending dates of the reporting period.

[40 CFR 63.7550(c)(3)]

(d) If a startup, shutdown, or malfunction occurred during the reporting period and the actions taken are consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR § 63.10(d)(5)(i).

[40 CFR 63.7550(c)(9)]

(e) If there are no deviations from the work practice standard in Condition XXV.B.4.a, a statement that there were no deviations from the work practice standard during the reporting period. [40 CFR 63.7550(c)(10)]

(f) If there were no periods during which the continuous emission monitoring system was out of control as specified in 40 CFR § 63.8(c)(7), a statement that there were no periods during which the continuous emission monitoring system was out of control during the reporting period.

[40 CFR 63.7550(c)(11)]

(3) For each deviation from the work practice standard in Condition XXV.B.4.a, the compliance report shall contain the information required by Conditions XXV.D.13.b(3)(a) through (l). This includes

periods of startup, shutdown, and malfunction and any deviations from the site-specific monitoring plan as required in Condition XXV.D.11.b.

[40 CFR 63.7550(e)]

(a) The date and time that each malfunction started and stopped and description of the nature of the deviation (i.e., identification of the requirement from which there was a deviation).

[40 CFR 63.7550(e)(1)]

(b) The date and time that each continuous emission monitoring system was inoperative, except for zero (low-level) and high-level checks.

[40 CFR 63.7550(e)(2)]

(c) The date, time, and duration that each continuous emission monitoring system was out of control, including the information in 40 CFR § 63.8(c)(8).

[40 CFR 63.7550(e)(3)]

(d) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

[40 CFR 63.7550(e)(4)]

(e) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total operating time of the affected boiler during that reporting period.

[40 CFR 63.7550(e)(5)]

(f) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

[40 CFR 63.7550(e)(6)]

(g) A summary of the total duration of continuous emission monitoring system downtime during the reporting period and the total duration of continuous emission monitoring system downtime as a percent of the total operating time of the affected boiler during that reporting period.

[40 CFR 63.7550(e)(7)]

(h) An identification of each parameter that was monitored at the affected boiler for which there was a deviation.

[40 CFR 63.7550(e)(8)]

(i) A brief description of the boiler for which there was a deviation.

[40 CFR 63.7550(e)(9)]

(j) A brief description of each continuous emission monitoring system for which there was a deviation.

[40 CFR 63.7550(e)(10)]

(k) The date of the latest continuous emission monitoring system certification or audit for the system for which there was a deviation.

[40 CFR 63.7550(e)(11)]

(l) A description of any changes in continuous emission monitoring systems, processes, or controls since the last reporting period for the boiler for which there was a deviation.

[40 CFR 63.7550(e)(12)]

b. If a startup, shutdown, or malfunction occurred during the reporting period, the Permittee shall submit an immediate startup, shutdown, and malfunction report if the startup, shutdown, or malfunction was not consistent with the startup, shutdown, and malfunction plan.

[40 CFR 63.7550(a)]

(1) The immediate startup, shutdown, and malfunction report shall be submitted by fax or telephone within 2 working days after starting actions inconsistent with the plan and shall also be submitted by letter within 7 working days after the end of the event unless alternative arrangements have been made with the Department.

[40 CFR 63.7550(a)]

(2) The immediate startup, shutdown, and malfunction report shall contain actions taken for the event and shall also contain the information described in 40 CFR § 63.10(d)(5)(ii).

[40 CFR 63.7550(a)]

c. The Permittee shall report all deviations as defined in Conditions XXV.D.11 or XXV.D.13 in the semiannual compliance certification.

[40 CFR 63.7550(f)]

E. Testing Requirements

The Permittee shall perform initial performance tests in accordance with Conditions XXV.E.1 through XXV.E.4. The results of the initial performance tests shall be used to determine initial compliance with the NO_X emission limitation in Condition XXV.B.2.b.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)} and R18-2-901(4) {40 CFR 60.46b(e)}]

1. Initial performance tests shall be performed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.

[A.A.C. R18-2-901(1) {40 CFR 60.8(a)}]

2. The initial performance tests shall be conducted, in accordance with Conditions XXV.E.2.a and XXV.E.2.b, using the NO_X continuous emission monitoring system required by Condition XXV.D.2.

[A.A.C. R18-2-901(4) {40 CFR 60.46b(e)}]

a. NO_X emissions shall be monitored for 30 successive boiler operating days. For the purposes of this condition, the term "boiler operating day" means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the particular boiler. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

[A.A.C. R18-2-901(4) {40 CFR 60.46b(e)(1)}]

b. The 30-day average emission rate shall be used to determine compliance with Condition XXV.B.2.b. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the monitoring system during the 30-day test period.

[A.A.C. R18-2-901(4) {40 CFR 60.46b(e)(1)}]

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-901(4), 40 CFR part 63 subpart DDDDD.

[A.A.C. R18-2-325]

XXVI. COOLING TOWER

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measures	Emission Point ID Number
Cooling Tower (S-28100)	Mechanical-draft; 80,000 gallons per minute (total for ten cells)	High-efficiency drift eliminator; leak detection and repair program	Not applicable

B. Emission Limits and Standards

1. The Permittee shall not cause or allow the circulating water flow rate in the Cooling Tower to exceed 80,000 gallons per minute.

[A.A.C. R18-2-306(A)(2)]

2. The Permittee shall not cause or allow to be emitted to the atmosphere from the Cooling Tower any gases which contain particulate matter in excess of 1.6 lbs per hour.

[A.A.C. R18-2-406(A)(5)]

3. The Permittee shall not discharge or cause or allow the discharge of particulate matter emissions into the ambient air from the Cooling Tower in excess of the allowable hourly emission rate determined as follows:

[A.A.C. R18-2-730(A)(1)]

a. For the purposes of Condition XXVI.B.3, all terms shall have the meaning given in A.A.C. R18-2-101 or R18-2-701.

b. Determination of the allowable hourly emission rates (E) for process weight rates up to 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where:
E = Emissions in pounds per hour, and
P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(a)]

c. Determination of the allowable hourly emission rates (E) for process weight rates in excess of 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

where:
E = Emissions in pounds per hour, and

P = Process weight rate in tons per hour.

[A.A.C. R18-2-730(A)(1)(b)]

4. The Permittee shall not cause or allow to be emitted to the atmosphere from the Cooling Tower any air contaminant, other than uncombined water, in excess of 20 percent opacity.

[A.A.C. R18-2-702(B)]

5. The Permittee shall not emit gaseous or odorous air contaminants from equipment, operations or premises under its control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730(D)]

6. Operational Requirements for the Heat Exchange System

[A.A.C. R18-2-406(A)(4)]

a. For the purposes of Conditions XXVI.B.6.b through XXVI.B.6.f, the term "heat exchange system" means the recirculating cooling water system in its entirety, including all heat exchangers.

b. The Permittee shall monitor the heat exchange system according to Conditions XXVI.B.6.b(1) through XXVI.B.6.b(3).

(1) Except as provided in Condition XXVI.B.6.b(3), the Permittee shall install, calibrate, operate, and maintain a continuous monitoring system to measure and record the total strippable VOC concentration at each inlet of the cooling tower.

(a) The minimum detection limit of each continuous monitoring system shall be no more than ten parts per billion by weight (ppbw) in the recirculating cooling water.

(b) Each continuous monitoring system shall be calibrated with methane or a VOC which best represents potential leakage into the heat exchange system.

(c) Calibration shall be checked weekly or more frequently, as necessary, in order to maintain a continuous monitoring system drift of less than 3.0 percent.

(d) Each continuous monitoring system shall be operated to yield valid data at least 95 percent of the time when the cooling tower is operational, averaged over each calendar year. If this data availability requirement cannot be met using a continuous monitoring system, data obtained according to Condition XXVI.B.6.b(2) shall be substituted in order to maintain at least 95 percent data availability.

(e) A leak is detected if the concentration of total strippable VOC is equal to or greater than 50 ppbw.

(2) Except as provided in Condition XXVI.B.6.b(3), the Permittee shall collect and analyze cooling water samples in order to determine total strippable VOC concentration. Sampling and analysis shall be performed as necessary to meet the data availability requirement of Condition XXVI.B.6.b(1)(d).

(a) Samples shall be collected at least once per calendar day.

(b) Each sample shall be analyzed for total strippable VOC according to Condition XXVI.E.

(c) A leak is detected if the concentration of total strippable VOC is equal to or greater than 50 ppbw.

(3) Monitoring for leaks shall not be required if the heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

c. If a leak is detected pursuant to Conditions XXVI.B.6.b(1) or XXVI.B.6.b(2), the Permittee shall comply with the following requirements, except as provided in Condition XXVI.B.6.d.

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

(2) Once the leak has been repaired pursuant to Conditions XXVI.B.1.c or XXVI.B.1.d(6), the Permittee shall confirm that the heat exchange system has been repaired within 7 calendar days of the repair or startup, whichever is later.

d. Delay of repair of heat exchange systems for which leaks have been detected is allowed in accordance with Conditions XXVI.B.6.d(1) through XXVI.B.6.d(4).

(1) Delay of repair is allowed indefinitely if the leaking equipment is isolated from the process.

(2) Unless specifically disapproved by the Director pursuant to Condition XXVI.B.6.d(6), delay of repair is allowed if repair is technically infeasible without a shutdown and a regularly scheduled shutdown will occur within two months after the Permittee receives results of monitoring tests indicating a leak. In these circumstances, delay of repair is allowed until the time of the regularly scheduled shutdown; a special shutdown before the planned shutdown is not required.

(3) Unless specifically disapproved by the Director pursuant to Condition XXVI.B.6.d(6), delay of repair is allowed if repair is technically infeasible without a shutdown and a shutdown for repair would cause greater emissions than the potential emissions from delaying repair. In these circumstances, delay of repair is allowed until the time of the next shutdown of the process equipment associated with the leaking heat exchanger.

(4) Unless specifically disapproved by the Director pursuant to Condition XXVI.B.6.d(6), delay of repair is allowed up to a maximum of 120 calendar days after the Permittee receives results of monitoring tests indicating a leak if parts or personnel necessary to effect repair are not available.

(5) If the Permittee invokes the delay of repair provisions pursuant to Conditions XXVI.B.6.d(2) through XXVI.B.6.d(4), the Permittee shall prepare documentation of its decision and shall submit notification pursuant to Conditions XXVI.D.5.c and XXVI.D.5.d.

(6) In the event that the Director disapproves the Permittee's election to utilize the delay of repair provisions, the Director will notify the Permittee of such disapproval. The notice of disapproval will document the basis for the Director's decision and will include a date by which the repair is required to be completed. The Permittee shall repair the leak as soon as practical but not later than the date specified in the notice of disapproval.

C. Air Pollution Control Equipment

The Permittee shall equip the cooling tower with high-efficiency drift eliminators guaranteed by the manufacturer for a total liquid drift not to exceed 0.0005 percent of the circulating water flow rate. The Permittee shall not cause, allow or permit the cooling tower to be operated without the high-efficiency drift eliminators properly installed, maintained, and operated.

[A.A.C. R18-2-331(A)(3)(d) & (e), A.A.C. R18-2-406(A)(4)]

D. Monitoring, Recordkeeping, and Reporting Requirements

1. For the purpose of demonstrating compliance with Conditions XXVII.B.2, and in accordance with the requirements of 40 CFR part 64, the Permittee shall maintain and implement the approved Compliance Assurance Monitoring (CAM) plan for the Cooling Tower.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

a. Prior to startup of the Cooling Tower, the Permittee shall obtain the Director's written approval of the CAM Plan and shall submit an application for revising the permit to include the monitoring and analysis procedures in the approved CAM Plan. These monitoring and analysis procedures shall be

incorporated into the permit through a significant permit revision, which includes a 30-day public notice period and a 45-day EPA review period per A.A.C. R18-2-320(D).

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM}]

b. Operation of approved monitoring in accordance with 40 CFR 64.7 shall commence upon startup of the Cooling Tower.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

c. The CAM Plan shall describe in detail the maintenance procedures for the Cooling Tower high-efficiency drift eliminators.

[A.A.C. R18-2-306(A)(3) & (4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

2. The Permittee shall maintain readily available records of the design and vendor-guaranteed maximum total liquid drift of the Cooling Tower.

[A.A.C. R18-2-306(A)(3)&(4) {40 CFR part 64 - CAM} and R18-2-406(A)(4)]

3. The Permittee shall maintain readily available records of the design maximum pumping capacity of each of the water pumps serving the Cooling Tower.

[A.A.C. R18-2-306(A)(3)&(4) {40 CFR part 64 - CAM} and R18-2-406(A)(5)]

4. The Permittee shall measure and record once per month the Total Dissolved Solids (TDS) of the circulating water used in the Cooling Tower. Solids measurement shall be performed using EPA Method 160.3 (in *Methods for the Chemical Analysis of Water and Wastes*. EPA-600/4-79-020. U.S. EPA, Environmental Monitoring and Systems Laboratory, Cincinnati, Ohio).

[A.A.C. R18-2-306(A)(3)&(4) {40 CFR part 64 - CAM} and R18-2-406(A)(5)]

5. The Permittee shall calculate once per month the particulate matter emission rate from the Cooling Tower. Each cooling tower emission rate calculation shall be made using the vendor-guaranteed maximum total liquid drift for the cooling tower and drift eliminators, the design maximum pumping capacity for the cooling tower, and the measured TDS of the circulating water in the cooling tower. A calculated particulate matter emission rate exceeding the limitation in Conditions XXVI.B.2 or XXVI.B.3 shall constitute a period of excess emissions.

[A.A.C. R18-2-306(A)(3)&(4) {40 CFR part 64 - CAM} and R18-2-406(A)(5)]

6. Recordkeeping and Reporting Requirements for Heat Exchange System

[A.A.C. R18-2-406(A)(4)]

a. For any heat exchange system that is not monitored for leaks pursuant to the exemption under Condition XXVI.B.6.b(3), the Permittee shall maintain records demonstrating that the heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kilopascals greater than the maximum pressure on the process side.

b. For any heat exchange system that is monitored for leaks pursuant to Condition XXVI.B.6.b, the Permittee shall retain the following records.

(1) A process diagram of the heat exchange system, including the locations at which the system will be monitored and sampled such

that the cooling water is not exposed to the atmosphere prior to sampling;

(2) Monitoring data generated pursuant to Condition XXVI.B.6.b;

(3) Records of all calibrations performed pursuant to Condition XXVI.B.6.b(1)(b);

(4) Records of all testing performed pursuant to Condition XXVI.B.6.b(2);

(5) Records of any leaks detected by procedures required under Condition XXVI.B.6 and the date the leak was discovered;

(6) The dates of efforts to repair leaks; and

(7) If a leak is detected by procedures required under Condition XXVI.B.6, and is subsequently demonstrated not to be a leaking heat exchange system, the basis for that determination;

(8) The method or procedure used to confirm repair of a leak and the date repair was confirmed.

c. If the Permittee invokes the delay of repair provisions for the heat exchange system pursuant to Conditions XXVI.B.6.d(2) through XXVI.B.6.d(4), the Permittee shall submit notification to the Director within 30 days after receiving results of monitoring tests indicating a leak. This notification shall include the following:

(1) A description of the monitoring results indicating that a leak was detected.

(2) The date on which the monitoring results were received by the Permittee.

(3) An explanation of the Permittee's decision that the repair cannot be effected without a shutdown.

(4) The expected date of repair

(5) An explanation of the basis for the expected repair date.

(6) The potential emissions from the leaking heat exchanger. These potential emissions shall be determined as the product of the following three values:

(a) The concentration of total strippable VOC in the cooling water from the leaking heat exchanger.

(b) The flow rate of the cooling water from the leaking heat exchanger.

(c) The expected duration of the delay.

(7) The estimated emissions from purging and depressurizing the equipment that will result from the unscheduled shutdown for the repair. This information need not be provided if the Permittee is invoking the delay of repair provisions pursuant to Condition XXVI.B.6.d(4).

d. If the Permittee has invoked the delay of repair provisions for the heat exchange system pursuant to Conditions XXVI.B.6.d(2) through XXVI.B.6.d(4), and the total strippable VOC concentration determined in accordance with Condition XXVI.B.6.b exceeds the concentration used to determine potential emissions from the leaking heat exchanger pursuant to Condition XXVI.D.5.c(6), the Permittee shall submit notification to the Director within 24 days after receiving the new concentration data. This supplemental notification shall include updated information consistent with the requirements of Condition XXVI.D.5.c.

E. Testing Requirements

1. Particulate Matter Performance Tests

The Permittee shall perform an initial performance test to determine the particulate matter emission rate from the cooling tower. This test shall be performed using either a modified EPA Reference Method 306 or the heated bead test method.

[A.A.C. R18-2-406(A)(5)]

2. Testing Requirements for Heat Exchange System

If required pursuant to Condition XXVI.B.6.b(2), the Permittee shall collect and analyze cooling water samples in order to determine total strippable VOC concentration according to the procedures in Conditions XXVI.E.3 through XXVI.E.8.

3. Summary of Heat Exchange Test Method

A continuous stream of cooling water is supplied via a hard pipe or direct interface to an air stripping column apparatus for analysis. Air flowing countercurrent to the water strips volatile organic compounds from the water for analysis. Some gases may flash from the water immediately upon entering the apparatus and these gases are trapped and mixed with the air stripped compounds. The concentration of the air stripped compounds combined with the flashed gases is determined at the apparatus air outlet by a suitable detector. Concentrations of air stripped compounds in the air exhaust, along with the air and water flow rates, are used to determine concentrations of strippable volatile compounds in the water. A Flame Ionization Detector (FID) analyzer is used to determine the total strippable VOC.

4. Equipment and Materials

a. Air stripping apparatus. An air stripping apparatus as presented in Figure 1 and meeting the following requirements:

(1) The stripping chamber shall be a cylinder 36 inches in length with an internal diameter of 3 inches, and constructed of clear, heavy-walled glass.

(2) The stripping chamber packing material shall be beryl saddles between 6 to 8 millimeter size. The depth of the packing material shall be 26 inches.

(3) The end caps of the stripping chamber shall meet the dimensions specified in Figure 2. Neoprene stoppers are recommended; however, securing clamps will be required to prevent leakage. Black rubber stoppers are not allowed due to the potential absorption and release of organic compounds. Alternative designs for the end caps, such as customized threaded plastic caps with Neoprene gaskets, are acceptable provided the materials used are non-reactive with the sample matrix or target compounds, and the end caps meet the specifications in Figure 2. The tip of the water sample inlet line is intentionally left 5 to 6 inches above the water level in the stripping chamber to help accelerate the response of the system as some VOC will be released immediately as the water falls into the chamber.

(4) Tubing used in the air stripping apparatus for transporting gas and water shall be ¼-inch stainless steel or Teflon material. Stainless steel or Teflon ¼-inch tubing of minimal length shall be used to route water sample from the sample tap to the air stripping apparatus. The water sample tubing from the sample tap shall not be more than 50 feet in length.

(5) Drying agents, such as Drierite™, for removing moisture from the stripped air stream before analysis by FID or collection in sample canisters are strictly prohibited to prevent loss of VOC to the drying agents. An empty, clear-glass flask is used as a knock-out to remove some of the moisture in the stripped air stream, but gas exiting the stripping chamber will essentially be at saturated moisture for the ambient conditions. Different styles of knockout flasks are acceptable; however, the flask must be clear-glass and 500 ml or less in size. Some FID analyzers may not be able to monitor for prolonged periods under such conditions and intermittent monitoring may be required.

(6) A T-union with one leg leading to a bubbler must be included as shown in Figure 1. Excess air not drawn into the analyzer probe or

sample canister is vented through the bubbler and serves to indicate that sufficient flow has been established. This is to assure that the sample is only from the stripped air and is not drawing in any external air. With the bubbler in place, care must be taken not to pull water into the FID analyzer.

(7) Gas bubble formation in the water rotameter can sometimes result from the pressure drop across the water rotameter control valve. Significant gas bubbles can interfere with accurate measurement of the sample water flow to the stripping chamber. A suggested possible solution to this problem is to place a control valve downstream of the water rotameter. By opening the rotameter to the fully open position or using a non-metering rotameter, and controlling the flow with the valve after the rotameter, the pressure drop occurs after the rotameter and bubble formation may be minimized. This approach may require a fine-adjusting control valve to achieve the flow rate control desired, and the tester must be certain that the water rotameter can withstand the pressure in the water source being sampled. Note: The air stripping apparatus design is based on the apparatus designed by El Paso Products Company of Odessa, Texas.

b. Flame Ionization Detector (FID) Analyzer. Analyzers with analog type readouts and those normally used for leak detection are generally not appropriate for this method because such instruments are designed for much higher concentration measurement than would be expected in the air stripping apparatus effluent. FID analyzers used in conjunction with the method must:

(1) Be a digital readout type, readable to 0.1 ppmv.

(2) Be able to meet the calibration requirements specified in Condition XXVI.E.5.a.

(3) Have a sampling rate less than 2000 ml/min since the stripping air flow rate is 2500 ml/min and an excess air flow is required.

c. Gases for Air Stripping Apparatus Operation and FID Analyzer Calibration.

(1) Zero Calibration Gas and Stripping Air. Air, certified to contain less than or equal to 0.1 ppmv of total hydrocarbon (THC).

(2) High-Level Calibration Gas. Cylinder gas standard of methane in air, certified by the manufacturer to be within ±2% of the specified concentration. The span gas calibration standard shall be 10 ppmv methane.

(3) Mid-Level Calibration Gas. Cylinder gas standard of methane in air, certified by the manufacturer to be within ±2% of the specified concentration. The mid-level calibration gas concentration shall be

between 20% and 50% of the high-level calibration gas concentration.

(4) Certified gases must be used within the manufacturer's specified shelf life, or recertified upon expiration.

(5) Subject to the Director's prior approval, calibration gas standards other than methane may be used if they better represent the potential VOC present in the cooling water.

5. Calibration.

a. FID Analyzer Calibration.

(1) Initial/Periodic Instrument Performance Evaluation. Perform the calibration precision and response time tests as described in Sections 8.1.2 and 8.1.3 of Reference Method 21 in appendix A to 40 CFR part 60.

(2) Calibration Procedure.

(a) Warmup period. Follow manufacturer's recommendations.

(b) Zero calibration. Introduce the zero gas (or stripping air) to the FID analyzer. Calibrate the analyzer to read 0.0 ± 0.2 ppmv.

(c) High-level calibration. Introduce the high-level calibration gas to the FID analyzer. Calibrate the analyzer to read within ±5.0% of the calibration gas certified value.

(d) Mid-level calibration check. Introduce the mid-level calibration to the FID analyzer. The FID analyzer response on the mid-level calibration gas must agree within ± 5.0% of the calibration gas certified value.

b. Air rotameter calibration.

(1) Calibrate the air supply rotameter system with a dry gas meter, soap film flowmeter, or similar direct volume measuring device with an accuracy of ± 2 percent.

(2) Operate the rotameter at 2500 cc/min for at least three calibration runs for 10 minutes each. When three consecutive calibration flow rates agree within ± 5 percent, average the three flow rates.

(3) If the average measured calibration flow rate agrees within ± 5% of the rotameter reading, the rotameter is acceptable. If the difference between the rotameter reading and the measured calibration flow

rate exceeds ± 5%, then remark the rotameter to the calibrated flow rate.

(4) Perform the rotameter calibration before the first field test and semiannually, thereafter.

c. Water rotameter calibration.

(1) Calibrate the water rotameter with a Class A volumetric flask, graduated cylinder, or similar container with a volume known to ± 2% accuracy and capable of holding a volume at least 4 times the calibration flow rate (i.e., a 500 ml volumetric flask to calibrate the rotameter at 125 ml/min.)

(2) Operate the water rotameter at 125 ml/min while filling the container. Record the time required to fill the container and calculate the actual flow rate based on the container volume and time required to fill the container. Repeat until three consecutive flow rates agree within ± 5% of the mean.

(3) If the average measured calibration flow rate agrees within ± 5% of the rotameter reading, the rotameter is acceptable. If the difference between the rotameter reading and the calibration flow rate exceeds ± 5%, then remark the rotameter to the calibrated flow rate.

(4) Perform the rotameter calibration before the first field test and semiannually, thereafter.

(5) Alternatively, a Class A volumetric flask or graduated cylinder may be used in the field test to collect water at the stripping chamber water exit and recording the time required to fill the container. If this approach is used, the water rotameter need not be calibrated.

d. Temperature probe calibration.

(1) Calibrate the stripping chamber temperature probe against an ASTM mercury thermometer or equivalent. The calibration shall be performed at or near 0 ºC, 20 ºC, and 40 ºC.

(2) If the absolute temperature (in Kelvin) measured by the temperature probe agree within ± 1.5% at each reference point, the temperature probe is acceptable.

(3) Perform the temperature probe calibration before the first field test and semiannually, thereafter.

6. Pretest Preparations

a. Selection of the sampling site.

(1) Sample sites for cooling towers must meet the following criteria:

(a) The sample port in the cooling tower return line header shall be in a location where the feed rates to the cooling tower water are still under pressure and prior to the release of the pressure to atmospheric or any vents in the return line header. For example, if the cooling tower has an open trough along the top of the tower which distributes water to each of the cells, the water supply for the test shall be taken prior to the cooling water entering the distributing trough.

(b) The sample port/probe shall not extend beyond the plane of the pipe wall into water matrix.

(c) Samples shall be drawn from either the vertical section near the base of the riser pipe (from the inside of the elbow to the riser) or the top of a horizontal section prior to the riser pipe at a location where the pipe will be completely full.

(d) For cooling towers with multiple risers, samples shall be drawn from a location prior to the risers unless sample ports are installed on each riser and the distribution of water flow to each riser can be determined.

b. Setup of Apparatus.

(1) Assure the unit is vertically level using a bubble indicator or some other level indicator. If the stripping chamber is not level, channeling of the water or air flow may occur in the chamber and result in inefficient stripping.

(2) Connect the zero air supply to the air inlet of the air stripping apparatus.

c. Perform the calibration procedures for the FID analyzer as described in Condition XXVI.E.5.a.

(1) Record calibration results on a data sheet.

(2) Some analyzers draw fuel air for the FID separately from the sample stream. If the fuel air is drawn from ambient air without purification, variations in the ambient level of THC may cause the instrument to drift. This can be especially problematic if the analyzer is calibrated indoors and then taken out to process areas for the test. Dramatic changes in ambient temperature may also cause instrument drift. Every effort should be made to calibrate the instrument under the same conditions it is to be used. Calibration drift checks shall be documented on the field data sheets. If the analyzer is not within the calibration specifications given in Condition XXVI.E.5.a(2), the FID analyzer must be recalibrated.

d. Blank/Background Determination

(1) Zero Air Check

(a) Open the zero air supply to the apparatus and adjust rotameter to read 2500 ml/min.

(b) Monitor the air effluent from the apparatus with the FID analyzer to determine the baseline reading of the empty stripping chamber and apparatus. Record the analyzer reading on the data sheet.

(c) If the zero air check indicates a background greater than or equal to 1.0 ppmv as methane in the stripped gas, then the apparatus shall be purged thoroughly to remove the contamination until an acceptable background is measured (< 1.0 ppmv as methane).

(2) Water Blank Check.

(a) Water blank checks shall be performed by the following schedule:

1) A water blank check shall be performed on all stripping apparatus systems, mobile and dedicated systems, before initial use in the field and at least once per month thereafter.

2) For mobile systems used on multiple sources, a water blank check between sources is mandatory.

(b) In order to ensure the entire sampling system is free of contamination, the water blank check is performed through the sampling line and water rotameter. Using either a pump or gravity, fill the stripping chamber with clean distilled water through the sample line and water rotameter until the packing is just submerged. Adjust the water flow rate to 125 ml/min.

(c) Restart the air supply and adjust to 2500 ml/min. Monitor the air effluent from the apparatus with the FID analyzer to determine the baseline reading of the apparatus while the system is flowing with clean water. Record the analyzer reading on the data sheet.

(d) If the water blank check indicates a background greater than or equal to 1.0 ppmv as methane in the stripped gas, then the apparatus should be cleaned and purged thoroughly to

remove the contamination until an acceptable background is measured (< 1.0 ppmv as methane).

(e) Drain the blank water from the stripping chamber before sampling.

(3) Recommended cleaning procedure. If air and water blanks are not sufficient to remove contamination from the system, the system should be disassembled and the components cleaned thoroughly.

(a) The stripping chamber should be cleaned with hot soapy water, followed by 5 rinses of tap water and 5 rinses of distilled water. The chamber may be baked off at 150 ºC for at least 1 hour, if an oven is available large enough to hold the chamber. Otherwise, the chamber will have to be air dried.

(b) The beryl saddles, moisture knock-out flask, and Neoprene stoppers should be cleaned with hot soapy water, followed by 5 rinses of tap water, 5 rinses of distilled water, then baked off in an oven at 150 ºC for at least 1 hour.

(c) Teflon™ and stainless steel tubing, unions, and valves that contact water or stripped air sample should be cleaned with hot soapy water, rinsed by flushing with 5 volumes of tap water and 5 volumes of distilled water, then purged with zero air or nitrogen while baked at 150 ºC in an oven for at least 1 hour. Stainless tubing too long to fit inside an available oven without bending should just be purged with zero air or nitrogen after cleaning.

(d) The water rotameter should be cleaned according to the manufacturer's recommendations, followed by flushing with distilled water and purging with zero air or nitrogen.

(e) Some components, such as plastic caps for the knock-out flasks and some valves, may be heat sensitive and may be damaged if baked at 150 ºC. Such components should be baked at a lower temperature for longer periods, purged with zero air or nitrogen without heating, or simply air dried, as appropriate.

7. Sampling.

a. Connect the water sample supply line to the sample port on the source (i.e., cooling tower return line header). Before connecting the water sample line to the air stripping apparatus water inlet, allow the sample water to flush through the sample line for at least 5 sample line volumes.

b. With the stripping air flowing at 2500 ml/min to the column, connect the sample line to the water inlet of the air stripping apparatus and start the sample water flow into the chamber. Sample water flow rates higher than 125 ml/min during the filling stages are permissible; however, reduce the flow to 125 ml/min once the beryl saddles are submerged. Adjust the water overflow as necessary to maintain the water level just above the beryl saddle packing. The column drain valve should not be used to control the water level, particularly if the overflow is used to obtain the sample water flow rate as described in Condition XXVI.E.5.c(5). Periodically check the water rotameter during sampling for gas bubble formation and the bubbler to assure that sufficient air flow is maintained. Record a notation in the data sheet comments section if any gas bubbles are observed in the water rotameter.

c. After the water level in the stripping chamber has reached the appropriate level and the air and sample water flow rates are set to 2500 ml/min and 125 ml/min, respectively, allow the stripping apparatus system to stabilize for a minimum of 10 minutes before making sample measurements. Longer stabilization time may be required depending on the organic compounds present and the particular water matrix. Before starting the test run record the time required for stabilization, barometric pressure, ambient temperature, and the process water flow rate (i.e., cooling tower water flow rate in gallons per minute).

d. At two minute intervals, record the FID analyzer measurement, water rotameter flow rate, air rotameter flow rate, and stripping chamber temperature. Adjust the air and water rotameter flows as necessary to maintain the target flows of 2500 ml/min and 125 ml/min, respectively; however, actual measured flows must be recorded. Monitor and record the data for a minimum of ten minutes.

e. Average the data from Condition XXVI.E.7.d and follow the calculations described in Condition XXVI.E.8 to determine the air strippable concentration.

8. Calculations.

a. Calculation of the concentration of air strippable compound(s) in the water matrix is by the following equation:

$$C = \frac{M \times \left(P \times 0.03342 \frac{\text{atm}}{\text{in. Hg}}\right) \times b \times c}{R \times (T + 273) \times a}$$

Where:

a = Sample water flow rate, ml/min.

b = Stripping air flow rate, ml/min.

c = Concentration of compound in the stripped air, ppmv, from the FID analyzer results. The total VOC result from the FID analyzer may be corrected based on the background check from either the zero air or water blank check, but only from the pretest background check. Post-test background checks may include residual contamination from the current test run. In no case shall the total VOC concentration by the FID analyzer be corrected by more than 1.0 ppmv as methane.

C = Concentration of air strippable compound in the water matrix, ppmw.

M = Molecular weight of the compound, g/mol.

P = Pressure in the stripping chamber, in. Hg (typically assumed to be same as atmospheric pressure).

R = 82.054 ml-atm/mol-K.

T = Stripping chamber temperature, ºC.

The equation is a material balance and the value "C" represents the concentration in ppmw of the compound in the water matrix that was stripped and does not represent the total concentration of the compound in the water matrix prior to air stripping. The concentration of stripped VOC in the air is on a volume basis, but the concentration of strippable VOC in the water is on a weight basis in a liquid phase; so the concentration value will appear much higher for the air phase.

F. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-730.

[A.A.C. R18-2-325]

XXVII. INTERNAL COMBUSTION ENGINES

A. List of Emission Units

Emission Unit Name (Equipment ID Number)	Emission Unit Description	Control Measures	Emission Point ID Number
Emergency Generator (S-29100)	Reciprocating internal combustion engine, diesel fuel-fired, 10.9 MMBtu/hr heat input (HHV), driving emergency electrical generator	Not applicable	EP-24
Fire Water Pump No. 1 (S-29200A)	Reciprocating internal combustion engine, diesel fuel-fired, 5.46 MMBtu/hr heat input (HHV), driving emergency fire water pump	Not applicable	EP-25
Fire Water Pump No. 2 (S-29200B)	Reciprocating internal combustion engine, diesel fuel-fired, 5.46 MMBtu/hr heat input (HHV), driving emergency fire water pump	Not applicable	EP-26

B. Emission Limits and Standards

1. The Permittee shall not cause or allow to be combusted in Fire Water Pump Nos. 1 or 2 or the Emergency Generator any fuel other than No. 2 diesel fuel. The diesel fuel shall have a sulfur content of 15 parts per million by weight or less.
[A.A.C. R18-2-406(A)(4)]

2. The Permittee shall not cause or allow the operation of the internal combustion engines to exceed the limits listed in Conditions XXVII.B.2.a and XXVII.B.2.b.
[A.A.C. R18-2-306(A)(2)]

   a. The Permittee shall not cause or allow the fuel usage in the internal combustion engines to exceed the following limits. Compliance with each of these fuel usage limits shall be determined on a monthly rolling 12-month sum basis and shall exclude fuel burned during periods of emergency situations.

      (1) In the Emergency Generator: 15,600 gallons per year.

      (2) In Fire Water Pump No. 1: 7,800 gallons per year.

      (3) In Fire Water Pump No. 2: 7,800 gallons per year.
      [A.A.C. R18-2-306(A)(2)]

b. The Permittee shall not cause or allow any of the internal combustion engines to operate in excess of 50 hours per year. The following shall be excluded from consideration in determining compliance with this limitation:

(1) Operation for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine.

(2) Operation in emergency situations.

[A.A.C. R18-2-306.01(A)]

3. The Permittee shall design, install, maintain, and operate Fire Water Pump Nos. 1 and 2 and the Emergency Generator in such a manner as to ensure the following:

[A.A.C. R18-2-331(A)(3)(d) & (e) and R-18-406(A)(4)]

a. Each Fire Water Pump internal combustion engine shall be certified by the manufacturer to be compliant with the following non-road engine emission standards, for engines with rated power not less than 450 kilowatts and nor more than 560 kilowatts, as codified at 40 CFR 89.112:

(1) For NO_X plus nonmethane hydrocarbons, the "Tier 3" emission standard of 4.0 grams per kilowatt-hour.

(2) For CO, the "Tier 3" emission standard of 3.5 grams per kilowatt-hour.

(3) For PM, the "Tier 2" emission standard of 0.20 grams per kilowatt-hour.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R-18-406(A)(4)]

b. The Emergency Generator internal combustion engine shall be certified by the manufacturer to be compliant with the following non-road engine emission standards, for engines with rated power more than 560 kilowatts, as codified at 40 CFR 89.112:

(1) For NO_X plus nonmethane hydrocarbons, the "Tier 2" emission standard of 6.4 grams per kilowatt-hour.

(2) For CO, the "Tier 2" emission standard of 3.5 grams per kilowatt-our.

(3) For PM, the "Tier 2" emission standard of 0.20 grams per kilowatt-hour.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R-18-406(A)(4)]

c. Each internal combustion engine shall be installed, maintained, and operated in accordance with manufacturer's instructions and recommendations.

[A.A.C. R18-2-331(A)(3)(d) & (e) and R-18-406(A)(4)]

4. The Permittee shall not cause or allow to be emitted to the atmosphere from Fire Water Pump Nos. 1 or 2 or the Emergency Generator smoke for any period greater than 10 consecutive seconds which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

[A.A.C. R18-2-719(E)]

5. Except as provided by Conditions XXVII.B.5.a and XXVII.B.5.b, fuel shall not be combusted in Fire Water Pump Nos. 1 and 2 and the Emergency Generator except during periods when a valid visible emissions observation can be conducted in accordance with EPA Reference Method 9.

   a. Condition XXVII.B.5 shall not apply to periods of emergency usage.

   b. Operation of an internal combustion engine may occur during periods when a valid visible emissions observation in accordance with EPA Reference Method 9 is not possible, provided that the requirements of Conditions XXVII.C.1.a and XXVII.C.1.b are met for that calendar day.

[A.A.C. R18-2-306(A)(3)]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. The Permittee shall demonstrate compliance with the opacity limitation in Condition XXVII.B.4 as follows:

   a. A certified EPA Reference Method 9 observer shall conduct visible emissions observations on Fire Water Pump Nos. 1 and 2 and the Emergency Generator. All visible emissions observations shall be conducted in accordance with EPA Reference Method 9.

   b. Except as provided by Conditions XXVII.C.1.c and XXVII.C.1.d, visible emissions observations required by Condition XXVII.C.1.a shall be conducted for each internal combustion engine for at least one six-minute period each calendar day.

   c. Visible emissions observations shall not be required for a particular internal combustion engine for any calendar day on which no fuel is combusted in that internal combustion engine.

   d. Visible emissions observations shall not be required for a particular internal combustion engine for any calendar day on which the only fuel combustion in that internal combustion engine occurs during emergency operation.

[A.A.C. R18-2-306(A)(3)]

2. The Permittee shall maintain on-site, and readily available for inspection, a record of each visible emissions observation conducted as required by Conditions XXVII.C.1.a and XXVII.C.1.b. Each visible emissions observation record shall include the following:

a. The internal combustion engine for which the visible emissions observation was performed;

b. Location, date, and time of the visible emissions observation;

c. The results of the visible emissions observation;

d. The operating conditions existing at the time of the visible emissions observation; and

e. The name of the observer.

[A.A.C. R18-2-306(A)(4)]

3. For Fire Water Pump Nos. 1 and 2 and the Emergency Generator, separately for each internal combustion engine, the Permittee shall maintain readily available records of the following:

a. Records of the type and quantity of fuel combusted in the internal combustion engine.

(1) Records required by Condition XXVII.C.3.a shall be created and maintained for each calendar day on which fuel is combusted in the internal combustion engine.

(2) Records required by Condition XXVII.C.3.a shall indicate the sulfur content of the fuel combusted and the method of determination.

(3) At the end of each calendar month, the Permittee shall calculate and record the rolling 12-month fuel usage for the internal combustion engine. This value shall be calculated as the sum of the monthly fuel usage for the most recent month and the 11 previous months, and shall be recorded within three calendar days after the end of each calendar month.

b. Records of the manufacturer's certification of conformity, demonstrating compliance with Condition XXVII.B.3.a or XXVII.B.3.b, as applicable. These records shall be maintained for the life of the internal combustion engine.

c. Records of the manufacturer's instructions and recommendations relating to operation and maintenance. These records shall be maintained for the life of the internal combustion engine.

d. Records of all maintenance performed on the internal combustion engine. These records shall be created and maintained for each calendar day on which maintenance is performed on the internal combustion engine.

[A.A.C. R18-2-306(A)(3)]

4. The Permittee shall submit the initial notification in 40 CFR §§ 63.9 (b) by the date specified. The notification should include the following:

a. The information in 40 CFR § 63.9(b)(2)(i) through (v).

b. A statement that the internal combustion engine has no additional requirements.

c. An explanation of the basis of the exclusion (i.e., that it operates exclusively as an emergency, stationary, reciprocating internal combustion engine).

[A.A.C. R18-2-1101(B)(83), 40 CFR 63.6590(b), 40 CFR 63.6645(d)]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-719(E) and A.A.C. R18-2-1101(B)(83).

[A.A.C. R18-2-325]

XXVIII. FUGITIVE DUST AND MISCELLANEOUS OTHER SOURCES

A. List of Emission Units

This section of the permit presents requirements that are applicable to dust-generating operations and miscellaneous other activities throughout the refinery. This section of the permit does not cover a specific process unit or emission unit.

B. Emission Limits and Standards

1. Requirements for All Nonpoint Sources

a. General

(1) As used in Conditions XXVIII.B.1.a through XXVIII.B.1.c, all terms shall have the meaning given in A.A.C. R18-2-101.

(2) Conditions XXVIII.B.1.b and XXVIII.B.1.c shall apply only to nonpoint sources.

[A.A.C. R18-2-601]

(3) For the purposes of Condition XXVIII.B.1.a(2), nonpoint sources are sources of air contaminants which, due to lack of an identifiable emission point or plume, cannot be considered point sources.

[A.A.C. R18-2-601]

(4) In applying the criterion in Condition XXVIII.B.1.a(3), such items as air-curtain destructors, heater-planners, and conveyor transfer points shall be considered to have identifiable plumes.

[A.A.C. R18-2-601]

b. Visible Emissions

The Permittee shall not cause, allow or permit visible emissions from nonpoint sources in excess of 40 percent opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. Open fires permitted under Condition XXVIII.B.2 are exempt from this requirement.

[A.A.C. R18-2-612]

c. Work Practice Requirements

The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Use approved dust suppressants, adhesive soil stabilizer, paving, covering, detouring, or wetting agents on, or bar access to open areas during construction operations, repair operations, demolition activities, clearing operations, and leveling operations, or when any earth is moved or excavated.

[A.A.C. R18-2-604(A)]

(2) Use approved dust suppressants, adhesive soil stabilizer, or paving on, or bar access to driveways, parking areas, and vacant lots where motor vehicular activity occurs.

[A.A.C. R18-2-604(B)]

(3) Use approved dust suppressants, temporary paving, detouring or wetting agents when a roadway is repaired, constructed, or reconstructed.

[A.A.C. R18-2-605(A)]

(4) Use dust suppressants, spray bars, hoods, wetting agents, or cover the load adequately when transporting material likely to give rise to airborne dust.

[A.A.C. R18-2-605(B) and R18-2-606]

(5) Use spray bars, hoods, wetting agents, dust suppressants, or cover when crushing, handling, or conveying material that is likely to give rise to airborne dust.

[A.A.C. R18-2-606]

(6) Adequately cover, or use wetting agents, chemical stabilization, or dust suppressants when stacking, piling, or otherwise storing organic or inorganic dust producing material.

[A.A.C. R18-2-607(A)]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and with the use of spray bars and wetting agents.

[A.A.C. R18-2-607(B)]

2. Additional Requirements for Certain Nonpoint Sources

a. The Permittee shall not cause, allow, or permit the use of any unpaved area as a haul road, access road, or parking lot.

[A.A.C. R18-2-406(A)(4)]

b. The Permittee shall not cause, allow, or permit bulk material to be hauled, either on-site or off-site, except in accordance with Conditions XXVIII.B.2.b(1) through XXVIII.B.2.b(3).

[A.A.C. R18-2-406(A)(4)]

(1) All haul trucks shall be loaded such that the freeboard is not less than three inches.

[A.A.C. R18-2-406(A)(4)]

(2) All haul trucks shall be loaded in such a manner as to prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, or tailgate(s).

[A.A.C. R18-2-406(A)(4)]

(3) No bulk material shall be transported in haul trucks unless the cargo compartment is covered with a tarp or other suitable closure.

[A.A.C. R18-2-406(A)(4)]

c. The Permittee shall not cause, allow, or permit any empty haul truck to leave the site unless the interior of the cargo compartment has been cleaned or the cargo compartment is covered with a tarp or other suitable closure.

[A.A.C. R18-2-406(A)(4)]

d. The Permittee shall not cause, allow, or permit any haul truck to leave the site without first utilizing a device that removes from its tires and exterior surfaces mud, dirt, debris, or other accumulation that may cause particulate matter emissions. Acceptable devices include:

(1) Wheel wash system.

(2) Gravel pad at least 30 feet wide, 50 feet long, and 6 inches deep.

(3) Paved roadway at least 20 feet wide and 100 feet long.

(4) Rails, pipes, or grates of sufficient width and length to remove debris effectively.

[A.A.C. R18-2-406(A)(4)]

e. The Permittee shall operate at all times in conformance with the current Dust Control Plan prepared pursuant to Condition XXVIII.C.1.a.

[A.A.C. R18-2-406(A)(4)]

3. Open Burning

a. Except as provided in Condition XXVIII.B.3.b, and except when permitted to do so by either the Director or the local officer delegated the authority for issuance of open burning permits, the Permittee shall not ignite, cause to be ignited, permit to be ignited, or suffer, allow or maintain any open outdoor fire.

[A.A.C. R18-2-602(A)]

(1) "Open outdoor fire," as used in Condition XXVIII.B.3.a, means any combustion of combustible material of any type outdoors, in the open where the products of combustion are not directed through a flue.

[A.A.C. R18-2-602(B)]

(2) "Flue," as used in Condition XXVIII.B.3.a(1), means any duct or passage for air, gases or the like, such as a stack or chimney.

[A.A.C. R18-2-602(B)]

b. The following fires are excepted from the prohibition in Condition XXVIII.B.3.a:

[A.A.C. R18-2-602(C)]

(1) Fires used only for cooking of food or for providing warmth for human beings or for recreational purposes or the branding of animals or the use of orchard heaters for the purpose of frost protection in farming or nursery operations.

[A.A.C. R18-2-602(C)(1)]

(2) Any fire set or permitted by any public officer in the performance of official duty, if such fire is set or permission given for the purpose of weed abatement, the prevention of a fire hazard, or instruction in the methods of fighting fires.

[A.A.C. R18-2-602(C)(2)]

(3) Fires set by or permitted by the state entomologist or county agricultural agents of the county for the purpose of disease and pest prevention.

[A.A.C. R18-2-602(C)(3)]

(4) Fires set by or permitted by the federal government or any of its departments, agencies or agents, the state or any of its agencies, departments or political subdivisions, for the purpose of watershed rehabilitation or control through vegetative manipulation.

[A.A.C. R18-2-602(C)(4)]

4. Point Sources

a. General

(1) As used in Conditions XXVIII.B.4.a through XXVIII.B.4.e, all terms shall have the meaning given in A.A.C. R18-2-101 and R18-2-701.

(2) Conditions XXVIII.B.4.b through XXVIII.B.4.e shall apply only to sources that are all of the following:

[A.A.C. R18-2-702(A)]

(a) Existing sources;

[A.A.C. R18-2-702(A)(1)]

(b) Point sources. For the purposes of this condition, "point source" means a source of air contaminants that has an identifiable plume or emissions point; and

[A.A.C. R18-2-702(A)(2)]

(c) Stationary sources.

[A.A.C. R18-2-702(A)(3)]

b. Visible Emissions

The Permittee shall not cause, allow, or permit visible emissions in excess of 20 percent opacity as determined by Reference Method 9 in appendix A to 40 CFR part 60.

[A.A.C. R18-2-406(A)(4), R18-2-702(B)]

c. Abrasive Blasting

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include, but are not limited to, wet blasting and the use of effective enclosures with necessary dust collecting equipment.

[A.A.C. R18-2-726]

d. Spray Painting Operations

While performing spray painting operations the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C. R18-2-727(A)]

(2) The Permittee shall not employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes.

[A.A.C. R18-2-727(B), R18-2-727(B)(1)]

(3) The Permittee shall not thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727(B), R18-2-727(B)(2)]

(4) For the purposes of Conditions XXVIII.B.4.d(2) and XXVIII.B.4.(3), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Conditions XXVIII.B.4.d(4)(a) through XXVIII.B.4.d(4)(c), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

[A.A.C. R18-2-727(C)]

(a) A combination of the following types of compounds having an olefinic or cycle-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: five percent.

[A.A.C. R18-2-727(C)(1)]

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent.

[A.A.C. R18-2-727(C)(2)]

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

[A.A.C. R18-2-727(C)(3)]

(5) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in Conditions XXVIII.B.4.d(4)(a) through XXVIII.B.4.d(4)(c), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C. R18-2-727(D)]

e. Solvent Cleaning / Degreasing / Dipping Operations

The Permittee shall process, store, use, and transport materials including solvents or volatile compounds in such a manner and by such means that they will not evaporate, leak, escape, or be otherwise discharged into the atmosphere so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage, or discharge, the installation and usage of such control methods, devices, or equipment shall be mandatory.

[A.A.C. R18-2-730(F)]

f. Air Pollution

(1) The Permittee shall not cause, allow, or permit gaseous or odorous materials to be emitted from equipment, operations or premises under its control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730(D)]

(2) Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730(G)]

g. Hydrogen Sulfide Emissions

The Permittee shall not cause, allow, or permit hydrogen sulfide to be emitted from any location in such manner and amount that the concentration

of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

[A.A.C. R18-2-730(H)]

5. Mobile Sources

a. General

(1) The requirements of Conditions XXVIII.B.5.b and XXVIII.B.5.c are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or are agricultural equipment used in normal farm operations.

[A.A.C. R18-2-801]

(2) The requirements of Conditions XXVIII.B.5.b and XXVIII.B.5.c shall not apply to portable sources.

[A.A.C. R18-2-801]

b. Off-road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers and other construction and mining machinery not normally driven on a completed public roadway.

[A.A.C. R18-2-802]

c. Roadway and Site Cleaning Machinery

(1) The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804(A)]

(2) The Permittee shall not cause, allow, or permit the cleaning of any site, roadway, or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

[A.A.C. R18-2-804(B)]

6. Demolition/Renovation

The Permittee shall comply with all applicable requirements of 40 CFR part 61, subpart M.

[A.A.C. R18-2-1101(A)(8) {40 CFR 61 subpart M by ref.}]

7. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all applicable requirements of 40 CFR part 82, subpart F.

[40 CFR 82 subpart F]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Fugitive Dust Control Plan

a. The Permittee shall prepare a Dust Control Plan meeting the requirements of Condition XXIII.C.1.b. The Permittee shall submit the plan to the Department for its approval at least 180 days prior to beginning any site clearing activities or on-site construction of the refinery. The Permittee shall maintain at all times a copy of the approved plan, readily available for inspection.

[A.A.C. R18-2-306(A)(4)]

b. The Dust Control Plan shall contain, at a minimum, all of the following information:

(1) Names, address(es), and phone numbers of person(s) responsible for the preparation, maintenance, and implementation of each element of the Dust Control Plan.

[A.A.C. R18-2-306(A)(4)]

(2) Control measures or a combination thereof to be applied to all actual and potential fugitive dust sources, before, after, and while conducting any dust generating operation, including during weekends, after work hours, and on holidays. The control measures specified in the Dust Control Plan shall address and shall be sufficient to ensure compliance with Conditions XXVIII.B.1 and XXVIII.B.2.

[A.A.C. R18-2-306(A)(4)]

(3) A drawing that shows:

(a) Entire project site boundaries;

(b) Acres to be disturbed with linear dimensions;

(c) Nearest public roads;

(d) North arrow; and

(e) Planned exit locations onto paved public roadways.
[A.A.C. R18-2-306(A)(4)]

(4) Dust suppressants to be applied, including product specifications or label instructions for approved usage and other information required by Conditions XXVIII.C.1.b(4) through XXVIII.C.1.b(4).

(a) Method, frequency, and intensity of dust suppressant application.

(b) Type, number, and capacity of dust suppressant application equipment.

(c) Information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application of dust suppressants.
[A.A.C. R18-2-306(A)(4)]

(5) Specific surface treatment(s) or other control measures utilized to control material trackout and sedimentation where unpaved or access points join paved public roadways.
[A.A.C. R18-2-306(A)(4)]

c. The Permittee shall maintain records of each instance of operation not consistent with the Dust Control Plan. Each such instance shall be considered a period of excess emissions.
[A.A.C. R18-2-306(A)(4)]

d. The Permittee shall report excess emissions and deviations in accordance with Sections XII.A and XII.B, respectively, in Attachment "A" of this permit. [A.A.C. R18-2-306(A)(5)(b)]

2. Abrasive Blasting

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

a. The date the project conducted;

b. The duration of the project; and

c. Type of control measures employed.
[A.A.C. R18-2-306(A)(4)]

3. Spray Painting Operations

a. Except as provided in Condition XXVIII.C.3.b, each time a spray painting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

(1) The date the project was conducted;

(2) The duration of the project;

(3) Type of control measures employed; and

(4) Material Safety Data Sheets for all paints and solvents used in the project.

b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of part a. above.

[A.A.C. R18-2-306(A)(4)]

4. Mobile Sources

The Permittee shall keep a record of all emissions-related maintenance activities performed on all mobile sources subject to Condition XXVIII.B.5.

[A.A.C. R18-2-306(A)(4)]

5. Demolition/Renovation

The Permittee shall comply with all applicable monitoring, recordkeeping, and reporting requirements of 40 CFR part 61, subpart M.

[A.A.C. R18-2-1101(A)(8) {40 CFR 61 subpart M by ref.}]

6. Nonvehicle Air Conditioner Maintenance and/or Services

The Permittee shall comply with all applicable monitoring, recordkeeping, and reporting requirements of 40 CFR part 82, subpart F.

[40 CFR 82 subpart F]

D. Permit Shield

Compliance with the terms of this section shall be deemed compliance with the following applicable requirement(s) in effect on the date of permit issuance: A.A.C. R18-2-406(A)(4), R18-2-601, R18-2-602, R18-2-604, R18-2-605, R18-2-606, R18-2-607, R18-2-612, R18-2-702(A), R18-2-702(B), R18-2-726, R18-2-727, R18-2-730(D), R18-2-730(F), R18-2-730(G), R18-2-730(H), R18-2-801, R18-2-802, R18-2-804.

[A.A.C. R18-2-325]

XXIX. ADDITIONAL AMBIENT AIR QUALITY MONITORING

A. List of Emission Units

This section of the permit presents requirements that are applicable to the refinery as a whole. This section of the permit does not cover a specific process unit or emission unit.

B. Monitoring, Recordkeeping, and Reporting Requirements

1. General

The requirements of Conditions XXIX.B.2 and XXIX.B.3 are designed to provide the Department and the public with reliable information characterizing the effects on ambient air quality due to the construction and operation of the refinery. These requirements are not federally enforceable.

[A.A.C. R18-2-306(B)(2)]

2. Ambient PM_{10} Concentration Monitoring

a. During the construction of the refinery, the Permittee shall install, certify, operate and maintain a network of ambient PM_{10} concentration monitors at or near the facility boundary. Monitors shall be arranged in such a way that coverage is provided for wind directions varying through 360 degrees.

[A.A.C. R18-2-306(B)(2)]

b. The Permittee shall submit to the Director for approval an ambient PM_{10} monitoring plan in conformance with the requirements of Condition XXIX.B.2.a.

[A.A.C. R18-2-306(B)(2)]

c. The monitoring plan shall include the number and location of monitors or sampling station; a description of the proposed monitoring systems; and a proposed date or milestone for terminating all requirements pertaining to the ambient PM_{10} monitoring network.

[A.A.C. R18-2-306(B)(2)]

d. The monitoring plan shall be submitted to the Department for its approval no later than 18 months prior to beginning actual construction of the refinery and monitoring or sampling shall be implemented no later than 12 months prior to beginning actual construction of the refinery. For the purposes of this permit condition only, the term "beginning actual construction" shall include site clearing and similar dust generating activities.

[A.A.C. R18-2-306(B)(2)]

3. Ambient Benzene Concentration Monitoring

a. The Permittee shall install, certify, operate and maintain an ambient benzene concentration monitoring network with sampling stations or monitors at or near the facility boundary. Monitors or sampling stations shall be arranged

in such a way that coverage is provided for representative upwind and downwind locations.

[A.A.C. R18-2-306(B)(2)]

b. The Permittee shall submit to the Director for approval an ambient benzene monitoring plan in conformance with the requirements of Condition XXIX.B.3.a.

[A.A.C. R18-2-306(B)(2)]

c. The monitoring plan shall include the number and location of monitors or sampling stations; a description of the proposed technologies and systems to be used for sample collection and analysis, including sampling frequency; and a description of the proposed means of disseminating the ambient benzene concentration data to the public.

[A.A.C. R18-2-306(B)(2)]

d. The monitoring plan shall be submitted to the Department for its approval no later than 18 months prior to beginning actual construction of the refinery and monitoring or sampling shall be implemented no later than 12 months prior to beginning actual construction of the refinery. For the purposes of this permit condition only, the term "beginning actual construction" shall include site clearing activities and other on-site activities requiring the use of non-road mobile sources.

[A.A.C. R18-2-306(B)(2)]

C. Permit Shield

Not applicable.

[A.A.C. R18-2-325]

ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit Number 1001205
for
Arizona Clean Fuels Yuma, LLC

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
A	-	017	00	A/B	Induced Draft Fan			
A	-	017	01	A/B	Combustion Air Fan			
A	-	017	10	A/B	SCR Dilution Air Fan			
B	-	013	00		Crude Charge Heater			
C	-	013	40		Vent Gas Compressor			
E	-	011	00	A/B	Crude/Top Pumparound Exchanger			
E	-	011	01	A/B	Crude/LVGO Exchanger			
E	-	011	02		Crude/Kerosene Exchanger			
E	-	011	03	A/D	Crude/Kerosene Pumparound Exchanger			
E	-	011	04		Crude/HVGO Exchanger			
E	-	011	20	A/D	Desalted Water Exchanger			
E	-	011	21		Desalted Water Air Cooler			
E	-	011	22	A/B	Desalted Water Cooler			
E	-	012	00		Crude/Diesel Pump Around Second Exchanger			
E	-	012	01		Crude/Diesel Exchanger			
E	-	012	02		Crude/AGO Exchanger			
E	-	012	03	A/F	Crude/Diesel Pumparound First Exchanger			
E	-	012	04	A/D	Crude/HVGO Exchanger			
E	-	012	05	A/D	Crude/Vacuum Residue Heat Exchanger			
E	-	013	00	A/F	Crude Tower Overhead Air Condenser			
E	-	013	01		Crude Tower Overhead Trim Condenser			
E	-	013	18		Kerosene Product Aircooler			
E	-	013	28		Diesel Product Aircooler			
E	-	013	40		Vent Gas Cooler			
E	-	014	00	A/C	Naphtha Stabilizer Condenser			
E	-	014	01		Naphtha Stabilizer Trim Condenser			
E	-	014	05	A/D	Naphtha Stabilizer Feed/Bott Exchanger			
E	-	014	08		Stabilized Naphtha Aircooler			
E	-	014	09		Naphtha Stabilizer Reboiler			
E	-	017	00		Waste Heat Boiler			
E	-	017	01		Steam Superheater Coil			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	017	08		150# Steam Blowdown Cooler			
E	-	017	10		SCR Ammonia Vaporizer			
E	-	019	90		Relief Drum Liquid Cooler			
P	-	011	10		Mud Washing Pump			
P	-	011	11	A/B	Wash Water Recycle Pump			
P	-	011	20	A/B	Desalter Water Pump			
P	-	012	00	A/B/ C	Crude Booster Pump			
P	-	013	00	A/B	Crude Tower Reflux Pump			
P	-	013	01	A/B	Crude Tower Sour Water Pump			
P	-	013	02	A/B	Top Pump Around Pump			
P	-	013	03	A/B	Kerosene Pump Around Pump			
P	-	013	04	A/B	Diesel Pump Around Pump			
P	-	013	08	A	Atmospheric Residue Pump			
P	-	013	08	B	Atmospheric Residue Pump			
P	-	013	18	A/B	Kerosene Product Pump			
P	-	013	28	A/B	Diesel Product Pump			
P	-	013	38	A/B	Atmospheric Gas Oil Product Pump			
P	-	013	41	A/B	Liquid K.O. Pumps			
P	-	014	00	A/B	Naphtha Stabilizer Reflux Pumps			
P	-	018	10	A/B	Inhibitor Dosage Pump			
P	-	018	20	A/B	Demulsifier Dosage Pump			
P	-	018	30	A/B	Caustic Dosage Pump			
P	-	019	70		Oily Water Sewer Sump Pump			
P	-	019	90	A	Relief K. O. Drum Pumps			
P	-	019	90	B	Relief K. O. Drum Pumps			
S	-	012	00		Crude Oil Booster Pump lube oil system			
S	-	013	40		Vent Gas Compressor Lube Oil Skid			
S	-	017	00		Block 100 SCR Module			
S	-	017	10		Block 100 SCR Charge Package			
S	-	018	10		Inhibitor Injection System			
S	-	018	20		Demulsifier Agent Injection System			
S	-	018	30		Caustic Injection System			
S	-	019	60		Oil Mist Generation System			
T	-	018	10		Inhibitor Injection Tank			
T	-	018	20		Demulsifier Dosage Tank			
T	-	018	30		Caustic Injection Tank			
U	-	013	08		Atmospheric Residue Pump Turbine Driver			
U	-	019	90		Relief Liquid K.O. Pump Driver			
V	-	011	10		Desalter			
V	-	011	11		Desalter			
V	-	011	20		Desalted Water Surge Drum			
V	-	012	00		Crude Lights Separator			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	013	00		Crude Tower			
V	-	013	01		Crude Tower Reflux Drum			
V	-	013	10		Kerosene Stripper			
V	-	013	20		Diesel Stripper			
V	-	013	30		AGO Stripper			
V	-	013	40		Vent Gas Compressor K.O. Drum			
V	-	013	41		Vent Gas Compressor Separator			
V	-	013	42		Vent Gas Compressor Run Down Tank			
V	-	014	00		Naphtha Stabilizer			
V	-	014	01		Naphtha Stabilizer OVHD Accum.			
V	-	014	09		Stab Reboiler Condensate Drum			
V	-	017	00		WHB Steam Drum			
V	-	017	10		SCR Ammonia Accumulator			
V	-	017	11		SCR Ammonia Vaporizer Vessel			
V	-	019	50		Sour Water Flash Drum			
V	-	019	30		Fuel Gas K.O. Drum			
V	-	019	90		Relief K.O. Drum			
P	-	013	01	A/B	Crude Tower Sour Water Pump			
E	-	011	04		Crude/HVGO Exchanger			
A	-	017	10	A/B	SCR Dilution Air Fan			
E	-	012	00		Crude/Diesel Pump Around Second Exchanger			
E	-	012	01		Crude/Diesel Exchanger			
E	-	012	02		Crude/AGO Exchanger			
V	-	011	10		Desalter			
V	-	011	11		Desalter			
V	-	012	00		Crude Lights Separator			
B	-	013	00		Crude Charge Heater			
E	-	019	90		Relief Drum Liquid Cooler			
P	-	019	70		Oily Water Sewer Sump Pump			
P	-	019	90	A	Relief K. O. Drum Pumps			
P	-	019	90	B	Relief K. O. Drum Pumps			
V	-	013	40		Vent Gas Compressor K.O. Drum			
E	-	011	01	A/B	Crude/LVGO Exchanger			
V	-	013	00		Crude Tower			
E	-	013	01		Crude Tower Overhead Trim Condenser			
E	-	014	01		Naphtha Stabilizer Trim Condenser			
E	-	014	09		Naphtha Stabilizer Reboiler			
V	-	013	01		Crude Tower Reflux Drum			
V	-	013	41		Vent Gas Compressor Separator			
V	-	014	01		Naphtha Stabilizer OVHD Accum.			
E	-	012	04	A/D	Crude/HVGO Exchanger			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	012	05	A/D	Crude/Vacuum Residue Heat Exchanger			
P	-	012	00	A/B/ C	Crude Booster Pump			
E	-	011	00	A/B	Crude/Top Pumparound Exchanger			
E	-	011	02		Crude/Kerosene Exchanger			
V	-	013	10		Kerosene Stripper			
V	-	014	00		Naphtha Stabilizer			
E	-	012	03	A/F	Crude/Diesel Pumparound First Exchanger			
E	-	013	18		Kerosene Product Aircooler			
E	-	017	10		SCR Ammonia Vaporizer			
E	-	014	08		Stabilized Naphtha Aircooler			
E	-	014	00	A/C	Naphtha Stabilizer Condenser			
P	-	013	00	A/B	Crude Tower Reflux Pump			
P	-	013	02	A/B	Top Pump Around Pump			
P	-	013	03	A/B	Kerosene Pump Around Pump			
P	-	013	18	A/B	Kerosene Product Pump			
P	-	013	41	A/B	Liquid K.O. Pumps			
P	-	014	00	A/B	Naphtha Stabilizer Reflux Pumps			
E	-	013	00	A/F	Crude Tower Overhead Air Condenser			
E	-	011	03	A/D	Crude/Kerosene Pumparound Exchanger			
E	-	014	05	A/D	Naphtha Stabilizer Feed/Bott Exchanger			
A	-	017	00	A/B	Induced Draft Fan			
A	-	017	01	A/B	Combustion Air Fan			
C	-	013	40		Vent Gas Compressor			
E	-	011	20	A/D	Desalted Water Exchanger			
E	-	011	21		Desalted Water Air Cooler			
E	-	011	22	A/B	Desalted Water Cooler			
E	-	013	40		Vent Gas Cooler			
E	-	013	28		Diesel Product Aircooler			
E	-	017	00		Waste Heat Boiler			
E	-	017	01		Steam Superheater Coil			
E	-	017	08		150# Steam Blowdown Cooler			
P	-	011	10		Mud Washing Pump			
P	-	011	11	A/B	Wash Water Recycle Pump			
P	-	011	20	A/B	Desalter Water Pump			
S	-	017	00		Block 100 SCR Module			
S	-	017	10		Block 100 SCR Charge Package			
P	-	013	04	A/B	Diesel Pump Around Pump			
P	-	013	08	A	Atmospheric Residue Pump			
P	-	013	08	B	Atmospheric Residue Pump			
P	-	013	28	A/B	Diesel Product Pump			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	013	38	A/B	Atmospheric Gas Oil Product Pump			
P	-	018	10	A/B	Inhibitor Dosage Pump			
P	-	018	20	A/B	Demulsifier Dosage Pump			
P	-	018	30	A/B	Caustic Dosage Pump			
S	-	012	00		Crude Oil Booster Pump lube oil system			
S	-	013	40		Vent Gas Compressor Lube Oil Skid			
S	-	018	10		Inhibitor Injection System			
S	-	018	20		Demulsifier Agent Injection System			
S	-	018	30		Caustic Injection System			
S	-	019	60		Oil Mist Generation System			
T	-	018	10		Inhibitor Injection Tank			
T	-	018	20		Demulsifier Dosage Tank			
T	-	018	30		Caustic Injection Tank			
U	-	013	08		Atmospheric Residue Pump Turbine Driver			
U	-	019	90		Relief Liquid K.O. Pump Driver			
V	-	011	20		Desalted Water Surge Drum			
V	-	013	20		Diesel Stripper			
V	-	013	30		AGO Stripper			
V	-	013	42		Vent Gas Compressor Run Down Tank			
V	-	014	09		Stab Reboiler Condensate Drum			
V	-	017	00		WHB Steam Drum			
V	-	017	10		SCR Ammonia Accumulator			
V	-	017	11		SCR Ammonia Vaporizer Vessel			
V	-	019	50		Sour Water Flash Drum			
V	-	019	30		Fuel Gas K.O. Drum			
V	-	019	90		Relief K.O. Drum			
B	-	021	00		Vacuum Charge Heater			
C	-	021	10	A/B	Vacuum System Vacuum Pumps			
E	-	021	00		LVGO Pumparound Cooler			
E	-	021	01		HVGO Steam Generator			
E	-	021	02		Gas Oil Mix Cooler			
E	-	021	08	A/B	Vacuum Residue Steam Generator			
E	-	021	11	A/C	Second Stage EjectorCondenser			
E	-	021	12	A/C	Third Stage Ejector Condenser			
E	-	021	13		Vacuum System After Condenser			
P	-	021	00	A/B	LVGO Pump			
P	-	021	01	A/B	HVGO Pump			
P	-	021	02	A/B	Slop Wax Pump			
P	-	021	08	A	Vacuum Residue Pump			
P	-	021	08	B	Vacuum Residue Pump			
P	-	021	10	A/B	Vacuum Slop Oil Pump			
P	-	021	11	A/B	Vacuum Sour Water Pump			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	021	90	A/B	Cooling Water Booster Pump			
S	-	021	10		Vacuum System			
U	-	021	08		Vacuum Residue Pump Turbine Driver			
V	-	021	00		Vacuum Tower			
V	-	021	10		Vacuum Condensate Drum			
V	-	021	11		Vacuum System Dischg Separator			
V	-	022	00		Heater Decoking Drum			
V	-	021	12		Vacuum Steam Separatator			
V	-	021	20		Vacuum Unit Steam Drum			
Y	-	021	00	A/B	LVGO Pumparound Filter			
Y	-	021	01	A/B	HVGO Pumparound Filter			
Y	-	021	02	A/B	Vacuum Wash Stream Filter			
Y	-	021	10	A/C	Vacuum System First Stage Ejector			
Y	-	021	11	A/C	Vacuum System Second Stage Ejector			
Y	-	021	12	A/C	Vacuum System Third Stage Ejector			
E	-	031	05		Sour Gas Cooler			
E	-	032	40		Lean Amine Cooler			
E	-	033	10		Lean Oil Cooler			
E	-	033	15	A/B	De-Ethanizer LPG Feed Exchanger			
E	-	033	19		Absorber/De-Ethanizer Reboiler			
E	-	034	10		Depropanizer Condenser			
E	-	034	19		Depropanizer Reboiler			
E	-	034	20		Debutanizer Condenser			
E	-	034	29		Debutanizer Reboiler			
P	-	031	08	A/B	Wash Water Blowdown Pump			
P	-	031	09	A/B	Wash Water Circulation Pump			
P	-	031	18	A/B	Sour Gas Rich Amine Pump			
P	-	032	10	A/B	LPG Coalescer Circulation Pump			
P	-	032	20	A/B	Caustic Booster Pump			
P	-	032	21	A/B	Caustic Treater Circulation Pump			
P	-	032	30	A/B	Hydrocracker LPG Coalescer Circ Pump			
P	-	032	40	A/B	Lean Amine Booster Pump			
P	-	032	50	A/B	Cold Condensate Pump			
P	-	032	60	A/B	Rich Amine Return Pump			
P	-	032	61		Skim Oil Pump			
P	-	033	00	A/B	Absorber/Deethanizer Feed Pump			
P	-	033	18	A/B	Depropanizer Feed Pump			
P	-	033	19	A/B	Absorber De-Ethanizer Reboiler Cond. Pump			
P	-	033	20	A/B	Absorber Lean Oil Make-up Pump			
P	-	034	10	A/B	Depropanizer Reflux Pump			
P	-	034	19	A/B	Depropanizer Reboiler Cond Pump			
P	-	034	20	A/B	Debutanizer Reflux Pump			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	034	28	A/B	Debutanizer Bottoms Pump			
P	-	039	22	A/B	LP Condensate Return Pump			
T	-	032	20		Caustic Break Tank			
T	-	032	50		Cold Condensate Break Tank			
S	-	032	20		LPG Caustic Wash System			
V	-	031	00		Sour Gas Water Wash Column			
V	-	031	05		Sour Gas K.O. Drum			
V	-	031	10		Sour Gas Amine Contactor			
V	-	031	18		Skim Oil Blow Pot			
V	-	032	10		LPG Amine Contactor			
V	-	032	11		LPG Coalescer			
V	-	032	20		LPG 1st Stage Caustic Treater			
V	-	032	22		LPG 2nd Stage Caustic Treater			
V	-	032	30		Hydrocracker LPG Amine Contactor			
V	-	032	31		Hydrocracker LPG Coalescer			
V	-	032	60		Amine Flash Drum			
V	-	033	00		LPG K.O. Drum			
V	-	033	10		Absorber Deethanizer			
V	-	033	19		Absorber/De-Ethanizer Cond Pot			
V	-	034	10		Depropanizer			
V	-	034	11		Depropanizer Reflux Drum			
V	-	034	19		Depropanizer Condesate Pot			
V	-	034	20		Debutanizer			
V	-	034	21		Debutanizer Reflux Drum			
V	-	034	30		Oily Water Flash Drum			
V	-	039	22		LP Condensate Drum			
Y	-	032	10		LPG Water Wash Static Mixer			
Y	-	032	20		Hydrocracker LPG Water Wash Static Mixer			
B	-	042	00		NHT Charge Heater			
C	-	042	20	A/B	NHT Recycle Compressors			
E	-	042	00	A	NHT Combined Feed Exchanger			
E	-	042	00	B	NHT Combined Feed Exchanger			
E	-	042	00	C	NHT Combined Feed Exchanger			
E	-	042	00	D/H	NHT Combined Feed Exchanger			
E	-	042	10	A/B	Products Condenser			
E	-	042	90		Recycle Comp Jacket Water Heater			
E	-	044	00		Stripper Condenser			
E	-	044	05		Stripper Feed-Splitter Bottoms Exchanger			
E	-	044	06	A/B	Stripper Feed-Bottoms Exchanger			
E	-	044	09		Stripper Reboiler			
E	-	045	00	A/I	Naphtha Splitter Condenser			
E	-	045	01		Naphtha Splitter Overhead Cooler			
E	-	045	08		Naphtha Splitter Bottoms Cooler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	045	09	A/B	Naphtha Splitter Reboiler			
P	-	041	00	A/B	NHT Charge Pumps			
P	-	042	30	A/B	Wash Water Injection Pumps			
P	-	042	93		Sulfide Injection Pump			
P	-	044	00	A/B	Stripper Reflux Pumps			
P	-	045	00	A/B	Naphtha Splitter Reflux Pumps			
P	-	045	01	A/B	Naphtha Splitter Overhead Pumps			
P	-	045	08	A/B	Naphtha Splitter Bottoms Pumps			
S	-	041	00	A	Lube Oil Skid for NHT Charge Pump A			
S	-	041	00	B	Lube Oil Skid for NHT Charge Pump B			
S	-	042	20	A/B	Lube Oil Skid for NHT Recycle Compressor			
T	-	042	30		Water Break Tank			
V	-	041	00		Feed Surge Drum			
V	-	042	00		NHT Reactor			
V	-	042	20		Recycle Compressor Suction Drum			
V	-	042	21		1st Stg Recycle Comp Suction Pulsation Bottle A			
V	-	042	22		1st Stg Recycle Comp Discharge Pulsation Bottle A			
V	-	042	23		2nd Stg Recycle Comp Suction Pulsation Bottle A			
V	-	042	24		2nd Stg Recycle Comp Discharge Pulsation Bottle A			
V	-	042	31		1st Stg Recycle Comp Suction Pulsation Bottle B			
V	-	042	32		1st Stg Recycle Comp Discharge Pulsation Bottle B			
V	-	042	33		2nd Stg Recycle Comp Suction Pulsation Bottle B			
V	-	042	34		2nd Stg Recycle Comp Discharge Pulsation Bottle B			
V	-	042	90		Cylinder Oil Storage Drum			
V	-	042	93		Sulfide Injection Drum			
V	-	042 1010			Separator			
V	-	044	00		Stripper Column			
V	-	044	01		Stripper Receiver			
V	-	045	00		Naphtha Splitter			
V	-	045	01		Naptha Splitter Receiver			
Y	-	042	91		NHT Recycle Comp Jacket Water Filter			
B	-	051	40		CCR Heater Waste Heat Boiler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
B	-	051	10		Charge Heater			
B	-	051	20		Interheater No. 1			
B	-	051	30		Interheater No. 2			
B	-	056	09		Debutanizer Reboiler Heater			
C	-	053	00		Recycle Compressor			
C	-	054	00	A/C	Net Gas Compressors - First Stage			
C	-	054	00	A/C	Net Gas Compressors - Second Stage			
C	-	054	00	A/C	Booster Compressors - Third Stage			
C	-	058	00		Lift Gas Blower			
C	-	058	01		Regeneration Blower			
C	-	058	02		Regeneration Cooler Blower			
C	-	058	03		Fines Removal Blower			
E	-	051	05		Combined Feed Exchanger			
E	-	052	00	A-E	Products Condenser			
E	-	052	01		Products Trim Condenser			
E	-	053	00		Reactor Purge Exchanger			
E	-	054	00		Recontact Cooler No. 1			
E	-	054	01		Recontact Trim Cooler No. 1			
E	-	054	10		Recontact Cooler No. 2			
E	-	054	11		Recontact Trim Cooler No. 2			
E	-	054	20		Jacket Water Heat Exchanger			
E	-	054	31		Third Stage Discharge Cooler			
E	-	056	00		Debutanizer Condenser			
E	-	056	01		Debutanizer Trim Condenser			
E	-	056	05	A-D	Debutanizer Feed - Bottoms Exchanger			
E	-	056	07		Debutanizer Bottoms Cooler			
E	-	056	08		Debutanizer Bottoms Trim Cooler			
E	-	058	00		Reduction Gas Exchanger			
E	-	058	01		Lift Gas Blower Cooler			
E	-	058	02		Booster Gas Heater			
E	-	058	03		Regeneration Cooler			
E	-	058	10		Reduction Gas Heater No.1			
E	-	058	20		Reduction Gas Heater No.2			
E	-	058	30		Regeneration Heater			
E	-	058	40		Air Heater			
P	-	051	40	A/B	Boiler Feed Water Circulation Pumps			
P	-	051	40	A/B	Circulating Water Pumps			
P	-	051	00	A/B	Sulfur Injection Pumps			
P	-	051	01		Chemical and Condensate Injection Pump			
P	-	051	02		Start-up Chemical Injection Pump			
P	-	052	00	A/B	CCR Separator Pumps			
P	-	056	00	A/B	Debutanizer Overhead Pumps			
P	-	056	09	A/B	Debutanizer Reboiler Pumps			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	058	00	A/B	Caustic Circulating Pumps			
P	-	058	01		Organic Chloride Injection Pump			
P	-	058	02	A/B	Caustic Injection Pumps			
P	-	058	03	A/B	Water Injection Pumps			
P	-	059	20	A/B	High Pressure Flash Drum Condensate Pumps			
P	-	059	21	A/B	Med. Pressure Flash Drum Condensate Pumps			
P	-	059	22	A/B	Low Pressure Flash Drum Condensate Pumps			
P	-	059	70	A/B	Oily-water Sump Pumps			
P	-	059	90	A/B	Flare Knockout Drum Hydrocarbon Pump			
P	-	059	91	A/B	Flare Knockout Drum Water Pump			
S	-	053	00		Lube Oil Skid for Recycle Compressor			
S	-	054	00	A	Lube Oil Skid for Net Gas Compressor A			
S	-	054	00	B	Lube Oil Skid for Net Gas Compressor B			
S	-	054	00	C	Lube Oil Skid for Net Gas Compressor C			
S	-	055	00		Pressure Swing Adsorption Unit			
S	-	058	00		Air Dryer			
S	-	058	01		Booster Gas Coalescer			
S	-	058	02		Dust Collector			
S	-	059	00		Waste Heat Boiler Chemical Feed Skid			
T	-	051	00		Condensate Break Tank			
T	-	058	10		Water Break Tank			
T	-	058	11		Caustic Break Tank			
V	-	051	10		Reactor No. 1			
V	-	051	20		Reactor No. 2			
V	-	051	30		Reactor No. 3			
V	-	051	40		Steam Disengaging Drum			
V	-	051	50		Fuel Gas Drum			
V	-	051	00		Sulfide Storage Drum			
V	-	052	00		Separator			
V	-	053	00		Lube Oil Rundown Tank			
V	-	054	77		1st Stage Suction Pulsation Bottle B			
V	-	054	78		1st Stage Discharge Pulsation Bottle B			
V	-	054	79		2nd Stage Suction Pulsation Bottle B			
V	-	054	80		2nd Stage Discharge Pulsation Bottle B			
V	-	054	81		3rd Stage Suction Pulsation Bottle B			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	054	82		3rd Stage Discharge Pulsation Bottle B			
V	-	054	83		1st Stage Suction Pulsation Bottle C			
V	-	054	84		1st Stage Discharge Pulsation Bottle C			
V	-	054	85		2nd Stage Suction Pulsation Bottle C			
V	-	054	86		2nd Stage Discharge Pulsation Bottle C			
V	-	054	87		3rd Stage Suction Pulsation Bottle C			
V	-	054	88		3rd Stage Discharge Pulsation Bottle B			
V	-	054	01		Recontact Drum No.1			
V	-	054	11		Recontact Drum No.2			
V	-	054	20		Net Gas Chloride Treater			
V	-	054	30		Third Stage Suction Drum			
V	-	054	31		Third Stage Discharge Drum			
V	-	054	71		1st Stage Suction Pulsation Bottle A			
V	-	054	72		1st Stage Discharge Pulsation Bottle A			
V	-	054	73		2nd Stage Suction Pulsation Bottle A			
V	-	054	74		2nd Stage Discharge Pulsation Bottle A			
V	-	054	75		3rd Stage Suction Pulsation Bottle A			
V	-	054	76		3rd Stage Discharge Pulsation Bottle A			
V	-	054	90		Cylinder Oil Tank			
V	-	056	00		Debutanizer			
V	-	056	01		Debutanizer Receiver			
V	-	058	00		Regeneration Tower			
V	-	058	01		Catalyst Addition Funnel No. 1			
V	-	058	02		Catalyst Addition Lock Hopper No. 1			
V	-	058	03		Disengaging Hopper			
V	-	058	04		Fines Collection Pot			
V	-	058	05		Catalyst Addition Funnel No. 2			
V	-	058	06		Catalyst Addition Lock Hopper No. 2			
V	-	058	07		Nitrogen Seal Drum			
V	-	058	08		Lock Hopper			
V	-	058	09		Vent Gas Wash Tower			
V	-	059	20		High Pressure Condensate Flash Drum			
V	-	059	21		Medium Pressure Condensate Flash Drum			
V	-	059	22		Waste Heat Boiler Blowdown Drum			
V	-	059	30		Fuel Gas K.O. Drum			
V	-	059	50		Sour Water Flash Drum			
V	-	059	90		Flare Knockout Drum			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	059	95		Chloride Storage Vessel			
Y	-	054	00		Jacket Water Filter			
Y	-	058	00	A/B	Reduction Gas Filters			
Y	-	058	01		Organic Chloride Injection Filter			
Y	-	058	02		Caustic Injection Filter			
Y	-	058	03		Water Injection Filter			
Y	-	058	08		Lock Hopper Filter			
E	-	065	09		Caustic Heater			
E	-	064	00	A/B	Stabilizer Condenser			
E	-	064	01		Stabilizer Trim Condenser			
E	-	064	07		Stabilizer Bottoms Trim Cooler			
E	-	064	08	A/B	Stabilizer Bottoms Cooler			
E	-	064	09		Stabilizer Reboiler			
E	-	063	05		Cold Combined Feed Exchanger			
E	-	063	06	A/B	Hot Combined Feed Exchanger			
E	-	063	07		Charge Heater			
E	-	061	00		Feed Cooler			
E	-	061	01		Feed Trim Cooler			
E	-	061	05		Sulfur Guard Bed Feed-Effluent Exchanger			
E	-	061	06		Feed-Stabilizer Bottoms Exchanger			
E	-	061	10		Regenerant Vaporizer			
E	-	061	11		Regenerant Superheater			
E	-	061	12		Regenerant Condenser			
P	-	065	00	A/B	Water Circulation Pumps			
P	-	065	09	A/B	Caustic Circulation Pumps			
P	-	065	10	A/B	Water Injection Pumps			
P	-	064	00	A/B	Stabilizer Reflux Pumps			
P	-	064	08	A/B	Recycle Feed Pumps			
P	-	063	10	A/B	Chloride Injection Pump			
P	-	063	11		Chloride Transfer Pump			
P	-	061	20	A/B	Charge Pumps			
T	-	065	10		Water Break Tank			
V	-	065	00		Net Gas Scrubber			
V	-	064	00		Stabilizer Column			
V	-	064	01		Stabilizer Receiver			
V	-	063	00	A/B	Reactors			
V	-	063	10		Chloride Injection Drum			
V	-	061	20		Reactor Feed Surge Drum			
V	-	061	10	A/B	Feed Driers			
V	-	062	00	A/B	Makeup Gas Driers			
V	-	061	00		Sulfur Guard Bed			
Y	-	062	00		Lube Oil Mist Eliminator			
A	-	07	701		Induced Draft Fan			
B	-	07	200		Reformer			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	07	100		LPG/Naphtha Vaporizer			
E	-	07	200		Mixed Feed Preheat Coil			
E	-	07	300		Process Gas Boiler			
E	-	07	301		Export Steam Superheater #1			
E	-	07	320		Feed Preheater			
E	-	07	321		Export Steam Superheater #2			
E	-	07	322		BFW Preheater			
E	-	07	323		Process Gas Air Cooler			
E	-	07	324		PSA Feed Trim Cooler			
E	-	07	700		Steam Generation Coil #1			
E	-	07	701		Steam Generation Coil #2			
E	-	07	702		Economizer Coil			
S	-	07	400		PSA Unit			
S	-	07	700		Selective Catalytic Reduction System			
S	-	07	701		Vaporized Ammonia Supply			
V	-	07	100		Hydrogenation Reactor			
V	-	07	110	A/B	Desulfurizer Reactors			
V	-	07	300		Steam Drum			
V	-	07	301		Continuous Blowoff Drum			
V	-	07	310		High Temperature Shift Reactor			
V	-	07	330		PSA Feed Separator			
V	-	07	490		Purge Gas Drum			
Y	-	07	110		Process Steam Silencer			
A	-	08		A/B	Combustion Air Fans			
B	-	082	00		Combined Feed Heater			
B	-	085	09		Fractionation Reboiler			
C	-	082	20		Recycle Gas Compressor			
E	-	082	05	A-D	Combined Feed Exchanger			
E	-	082	06	A-D	Combined Feed Exchanger			
E	-	082	10	A-D	Reactor Effluent Condenser			
E	-	082	20		Recycle Gas Cooler			
E	-	084	00	A/B	Stripper Overhead Condenser			
E	-	084	01		Stripper Overhead Trim Condenser			
E	-	084	05	A/B	Stripper Feed/Jet PA Exchanger			
E	-	084	06	A/B	Stripper Feed/Fractionator Bottoms Exchanger			
E	-	084	07	A/B	Fractionator Bottoms Cooler			
E	-	085	00		Fractionator Overhead Condenser			
E	-	085	02		Jet Pumparound Cooler			
E	-	085	05		Fractionator Feed Preheat Exchanger			
E	-	085	17	A/B	Jet Product Cooler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	085	18		Jet Product Trim Cooler			
E	-	085	19		Jet Stripper Reboiler			
P	-	081	00	A/B	DHT Charge Pumps			
P	-	082	21	A/B	Scrubber Water Circulating Pumps			
P	-	082	25	A/B	Lean Amine Pumps			
P	-	082	30	A/B	Wash Water Pumps			
P	-	082	91		Neutralization Fill Pump			
P	-	082	92		Neutralization Return Pump			
P	-	084	00	A/B	Stripper Reflux Pumps			
P	-	084	01	A/B	Stripper Inhibitor Injection Pumps			
P	-	085	00	A/B	Fractionator Reflux Pumps			
P	-	085	01	A/B	Fractionator Net Overhead Liquid Pumps			
P	-	085	02	A/B	Fractionator Overhead Water Pumps			
P	-	085	03	A/B	Jet Pumparound Pumps			
P	-	085	08	A/B	Fractionator Bottoms Pumps			
P	-	085	09	A/B	Fractionator Reboiler Circulation Pumps			
P	-	085	18	A/B	Jet Product Pumps			
P	-	087	00		Sulfide Injection Pump			
P	-	087	90	A/B	Flare Knockout Drum Hydrocarbon Pumps			
P	-	087	91	A/B	Flare Knockout Drum Water Pumps			
P	-	089	20	A/B	High Pressure Flash Drum Cond. Pumps			
P	-	089	21	A/B	Med. Pressure Flash Drum Cond. Pumps			
P	-	089	22	A/B	Low Pressure Flash Drum Cond. Pumps			
P	-	089	70	A/B	Oily-water Sump Pumps			
S	-	08			Recycle Gas Comp LO Skid			
S	-	08			Charge Pumps LO Skid			
T	-	082	30		Wash Water Break Tank			
T	-	082	91		Neutralization Tank			
V	-	081	00		Feed Surge Drum			
V	-	081	01		Feed Coalescer			
V	-	082	00		Reactor			
V	-	082	10		Separator			
V	-	082	20		Recycle Gas Knockout Drum			
V	-	082	21		Recycle Gas Scrubber			
V	-	082	22		Recycle Gas Scrubber Interface Pot			
V	-	082	25		Lube Oil Rundown Tank			
V	-	084	00		Stripper			
V	-	084	01		Stripper Receiver			
V	-	085	00		Fractionator			
V	-	085	01		Fractionator Receiver			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	085	10		Jet Stripper			
V	-	087	00		Sulfide Injection Drum			
V	-	089	00		Fuel Gas Knockout Drum			
V	-	089	21		High Pressure Cond Flash Drum			
V	-	089	22		Medium Pressure Cond Flash Drum			
V	-	089	23		Low Pressure Cond Flash Drum			
V	-	089	50		Sour Water Flash Drum			
V	-	089	90		Flare Knockout Drum			
Y	-	081	00		Feed Filter			
A	-	105	00	A/B	Forced Draft Air Fans			
A	-	105	01	A/B	Induced Draft Fan			
B	-	102	00		Recycle Gas Heater			
B	-	105	00		Product Fractionator Charge Heater			
C	-	102	50		Recycle Gas Compressor			
C	-	103	00 1ST	A/B	Makeup Gas Compressors			
E	-	101	01		Backwash Cooler			
E	-	102	05	A	Effluent - Recycle Gas Hot Exchanger			
E	-	102	05	B	Effluent - Feed Hot Exchanger			
E	-	102	05	C/D	Effluent - Recycle Gas Medium Exchanger			
E	-	102	05	E/F	Effluent - Feed Cold Exchanger			
E	-	102	06	A	Effluent - Recycle Gas Hot Exchanger			
E	-	102	06	B	Effluent - Feed Hot Exchanger			
E	-	102	06	C/D	Effluent - Recycle Gas Medium Exchanger			
E	-	102	06	E/F	Effluent - Feed Cold Exchanger			
E	-	102	10		Hot Separator Vapor - Recycle Gas Exchanger			
E	-	102	11	A	Hot Separator Vapor - Stripper Feed Exchanger			
E	-	102	11	B	Hot Separator Vapor - Stripper Feed Exchanger			
E	-	102	11	C	Hot Separator Vapor - Stripper Feed Exchanger			
E	-	102	20		Hot Flash Vapor Condenser			
E	-	102	30	A/H	Hot Separator Vapor Condenser			
E	-	102	50		Recycle Gas Cooler			
E	-	103	00	A/B	First Stage Discharge Cooler			
E	-	103	01		First Stage Discharge Trim Cooler			
E	-	103	10		Second Stage Discharge Cooler			
E	-	103	11		Second Stage Discharge Trim Cooler			
E	-	103	20		Makeup Gas Spillback Cooler			
E	-	103	21		Makeup Gas Spillback Trim Cooler			
E	-	104	00	A/F	Stripper Condenser			
E	-	104	01		Stripper Trim Condenser			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	105	00	A/D	Product Fractionator Condenser			
E	-	105	01		Combustion Air Preheater			
E	-	105	02		Kerosene Pumparound Cooler			
E	-	105	03		Diesel Pumparound Cooler			
E	-	105	05		Product Fractionator Feed/Bottoms Exchanger			
E	-	105	18		Kerosene Product Cooler			
E	-	105	19		Kerosene Stripper Reboiler			
E	-	105	27		Diesel Product Cooler			
E	-	105	28		Diesel Product Trim Cooler			
E	-	106	00	A/E	Naptha Splitter Condenser			
E	-	106	01		Light Naptha Product Cooler			
E	-	106	08	A/B	Heavy Naptha Product Cooler			
E	-	106	09		Naptha Splitter Reboiler			
E	-	107	00	A/D	Debutanizer Condenser			
E	-	107	01		Debutanizer Trim Condenser			
E	-	107	05		Debutanizer Feed - Kerosene Pumparound Exch.			
P	-	101	00	A/B	Charge Pumps			
P	-	101	01	A/B	Backwash Pumps			
P	-	101	90		Sulfide Injection Pump			
P	-	102	55	A/B	Scrubber Circulating Water Pumps			
P	-	102	56	A/B	Lean Amine Pumps			
P	-	102	60	A/B	Wash Water Pumps			
P	-	102	90		Neutralization Fill Pump			
P	-	102	91		Neutralization Return Pump			
P	-	104	00	A/B	Stripper Reflux Pumps			
P	-	104	01	A/B	Stripper Net Overhead Pumps			
P	-	104	08	A/B	Stripper Bottoms Pumps			
P	-	104	10		Stripper Inhibitor Injection Pump			
P	-	105	00	A/B	Product Fractionator Reflux Pumps			
P	-	105	01	A/B	Product Fractionator Net Overhead Pumps			
P	-	105	02	A/B	Kerosene Pumparound Pumps			
P	-	105	03	A/B	Diesel Pumparound Pumps			
P	-	105	08	A/B	Product Fractionator Bottoms Pumps			
P	-	105	10	A/B	Fractionator Inhibitor Injection Pumps			
P	-	105	18	A/B	Kerosene Product Pumps			
P	-	105	28	A/B	Diesel Product Pumps			
P	-	105	30	A/B	Product Fractionator Overhead Water Pumps			
P	-	106	00	A/B	Naptha Splitter Overhead Pumps			
P	-	106	08	A/B	Naptha Splitter Bottoms Pumps			
P	-	106	30		Naptha Splitter Overhead Water Pump			
P	-	107	00	A/B	Debutanizer Overhead Pumps			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	107	09	A/B	Debutanizer Reboiler Pumps			
P	-	109	70	A/B	Oily-water Sump Pump			
P	-	109	90	A/B	Flare Knock-out Drum Hydrocarbon Pump			
S	-	102	50		Recycle Gas Compressor Lube Oil Skid			
S	-	103	00	A/B	Makeup Gas Compressor Lube Oil Skid			
S	-	109	00		Oil Mist Generation System			
T	-	102	60		Wash Water Break Tank			
T	-	102	90		Neutralization Storage Tank			
U	-	102	10		Hot Separator Liquid Power Recovery Turbine			
U	-	102	56		Rich Amine Power Recovery Turbine			
V	-	109	50		Sourwater Degassing Drum			
V	-	109	90		Flare Knockout Drum			
V	-	101	00		Feed Surge Drum			
V	-	101	01		Backwash Surge Drum			
V	-	101	02		Feed Coalescer			
V	-	101	90		Sulfide Storage Drum			
V	-	102	00		Reactor No. 1			
V	-	102	01		Reactor No. 2			
V	-	102	10		Hot Separator			
V	-	102	20		Hot Flash Drum			
V	-	102	30		Cold Separator			
V	-	102	40		Cold Flash Drum			
V	-	102	50		Recycle Gas Knockout Drum			
V	-	102	51		Recycle Gas Scrubber			
V	-	102	52		Interface Pot			
V	-	102	53		Lube Oil Rundown Drum			
V	-	103	00		Makeup Gas Suction Drum			
V	-	103	02		Cylinder Oil Drum			
V	-	103	11		1st stage Suction Pulsation Suppression Drums			
V	-	103	12		1st stage Discharge Pulsation Suppression Drm			
V	-	103	13		2nd stage Suction Pulsation Suppression Drums			
V	-	103	14		2nd stage Discharge Pulsation Suppression Drm			
V	-	103	15		3rd stage Suction Pulsation Suppression Drums			
V	-	103	16		3rd stage Discharge Pulsation Suppression Drm			
V	-	103	21		1st stage Suction Pulsation Suppression Drums			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	103	22		1st stage Discharge Pulsation Suppression Drm			
V	-	103	23		2nd stage Suction Pulsation Suppression Drums			
V	-	103	24		2nd stage Discharge Pulsation Suppression Drm			
V	-	103	25		3rd stage Suction Pulsation Suppression Drums			
V	-	103	26		3rd stage Discharge Pulsation Suppression Drm			
V	-	104	00		Stripper			
V	-	104	01		Stripper Receiver			
V	-	105	00		Product Fractionator Column			
V	-	105	01		Product Fractionator Receiver			
V	-	105	08	A/B	HPNA Adsorption Chambers			
V	-	105	10		Kerosene Stripper			
V	-	105	20		Diesel Stripper			
V	-	105	27		Diesel Coalescer			
V	-	105	28		Salt Dryer			
V	-	106	00		Naptha Splitter			
V	-	106	01		Naptha Splitter Receiver			
V	-	107	00		Debutanizer			
V	-	107	01		Debutanizer Receiver			
V	-	109	30		Fuel Gas Knockout Drum			
Y	-	101	00	A/B	Feed Filters			
E	-	11	120		Stripper Pumparound Cooler			
E	-	11	125		Feed/Bottom Exchanger			
E	-	11	128		Stripper Water Cooler			
E	-	11	129		Stripper Reboiler			
P	-	11	100	A/B	Flash Drum Sour Water Pump			
P	-	11	101		Flash Drum Slop Oil Pump			
P	-	11	110	A/B	Sour Water Feed Pump			
P	-	11	111		Feed Prep Tank Slop Oil Pump			
P	-	11	120	A/B	Stripper Pumparound Pump			
P	-	11	128	A/B	Stripped Water Pump			
S	-	11	130		Caustic Injection System			
T	-	11	100		Feed Prep Tank			
V	-	11	100		Sour Water Flash Drum			
V	-	11	120		Water Stripper			
E	-	12	110		Regenerator OVHD Condenser			
E	-	12	115		Lean/Rich Exchanger			
E	-	12	118		Lean Amine Cooler #1			
E	-	12	119		Regenerator Reboiler			
E	-	12	120		Lean Amine Cooler #2			
P	-	12	201		Amine Unload Pump			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	12	100	A/B	Rich Amine Pump			
P	-	12	101	A/B	Slop Oil Pump			
P	-	12	110	A/B	Amine Regenerator Reflux Pump			
P	-	12	118	A/B	Lean Amine Pump			
P	-	12	130		Amine Sump Pump			
P	-	12	200		Amine Injection Pump			
T	-	12	200		Lean Amine Tank			
T	-	12			Rich Amine Tank			
V	-	12	100		Three Phase Separator			
V	-	12	110		Amine Regenerator			
V	-	12	111		Regenerator Accumulator			
V	-	12	130		Amine Sump			
Y	-	12	120	A/B	Amine Bag Filter			
Y	-	12	121		Activated Carbon Filter			
Y	-	12	122		Activated Carbon Afterfilter			
Y	-	12	130		Amine Sump Filter			
A	-	13	100	A/B	Reaction Furnace Air Blower			
A	-	13	200	A/B	Reaction Furnace Air Blower			
A	-	13	310	A/B	Combustion Air Blower			
A	-	13	330		Start Up Recycle Compressor			
B	-	13	120		Reaction Furnace			
B	-	13	220		Reaction Furnace			
B	-	13	310		Reducing Gas Generator			
B	-	13	500		Thermal Oxidizer			
E	-	13	110		Amine Acid Gas Preheat			
E	-	13	120		Waste Heat Boiler			
E	-	13	121		Sulphur Condenser #1			
E	-	13	130		Reheat Exchanger #1			
E	-	13	131		Sulphur Condenser #2			
E	-	13	140		Reheat Exchanger #2			
E	-	13	141		Sulphur Condenser #3			
E	-	13	142		15 Psig Steam Condenser			
E	-	13	210		Amine Acid Gas Preheat			
E	-	13	220		Waste Heat Boiler			
E	-	13	221		Sulphur Condenser #1			
E	-	13	230		Reheat Exchanger #1			
E	-	13	231		Sulphur Condenser #2			
E	-	13	240		Reheat Exchanger #2			
E	-	13	241		Sulphur Condenser #3			
E	-	13	242		15 Psig Steam Condenser			
E	-	13	320		Waste Heat Exchanger			
E	-	13	330		Quench Water Cooler			
E	-	13	410		Lean Amine Cooler			
E	-	13	420		Lean/Rich Exchanger			
E	-	13	425		Regenerator Reboiler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	13	429		Regenerator Overhead Condenser			
P	-	13	100	A/B	SWS Acid Gas K.O. Drum Pump			
P	-	13	110	A/B	Amine Acid Gas K.O. Drum Pump			
P	-	13	150		Molten Sulphur Pump			
P	-	13	210	A/B	Amine Acid Gas K.O. Drum Pump			
P	-	13	250		Molten Sulphur Pump			
P	-	13	300	A/B	Quench Water Pump			
P	-	13	418	A/B	Rich Amine Pump			
P	-	13	420	A/B	Regenerator Reflux Pump			
P	-	13	428	A/B	Lean Amine Pump			
P	-	13	430		Amine Sump Pump			
P	-	13	440		Fresh Amine Pump			
P	-	13	441		Amine Unload Pump			
T	-	13	150		Sulphur Pit			
T	-	13	250		Sulphur Pit			
V	-	13	000		SWS Acid Gas K.O. Drum			
V	-	13	110		Amine Acid Gas K.O. Drum			
V	-	13	130		Catalyst Reactor #1			
V	-	13	140		Catalyst Reactor #2			
V	-	13	210		Amine Acid Gas K.O. Drum			
V	-	13	230		Catalyst Reactor #1			
V	-	13	240		Catalyst Reactor #2			
V	-	13	330		Quench Tower			
V	-	13	410		Amine Absorber			
V	-	13	420		Amine Regenerator			
V	-	13	421		Regenerator Reflux Accumulator			
Y	-	13	150		Sulphur Pit Steam Eductor			
Y	-	13	250		Sulphur Pit Steam Eductor			
Y	-	13	330	A/B	Quench Water Filter			
Y	-	13	410	A/B	Amine Bag Filter			
Y	-	13	411		Activated Carbon Filter			
Y	-	13	412		Activated Carbon Afterfilter			
Y	-	13	430		Waste Amine Filter			
B	-	14	110	A/B	Coker Furnace			
C	-	14	300		Wet Gas Compressor			
E	-	14	000		LGO PA/Resid Exchanger			
E	-	14	001		HGO Product/Resid Exchanger			
E	-	14	002		HGO PA/Resid Exchanger			
E	-	14	200		Fractionator Ovhd Air Condenser			
E	-	14	201		Fractionator Ovhd Trim Condenser			
E	-	14	203		LGO PA Air Cooler			
E	-	14	204		HGO PA/Steam Generator			
E	-	14	205		HHGO PA/Steam Generator			
E	-	14	206		FZGO/BFW Exchanger			
E	-	14	217		LGO Product Air Cooler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	14	218		LGO Product Trim Cooler			
E	-	14	226		HGO Product/Naphtha Recycle Exchanger			
E	-	14	227		Naphtha Recycle Preheater			
E	-	14	228		HGO Product Air Cooler			
E	-	14	300		Interstage Cooler			
E	-	14	310		Compressor Discharge Cooler			
E	-	14	311		Recontact Cooler			
E	-	14	400		Absorber Ovhd Cooler			
E	-	14	407		Stripper Side Reboiler			
E	-	14	409		Stripper Reboiler			
E	-	14	420		Debutanizer Condenser			
E	-	14	427		Lean Oil Air Cooler			
E	-	14	428		Naphtha Product Trim Cooler			
E	-	14	429		Debutanizer Reboiler			
E	-	14	500		Quench Tower Ovhd Air Condenser			
E	-	14	509		Heavy Slop Oil Recycle Heater			
E	-	14	801		Waste Addition Charge Heater			
E	-	14	802		Waste Holding Tank Heater			
E	-	14	812		Biosludge Holding Tank Heater			
F	-	14	800		Waste Addition Holding Tank Agitator			
F	-	14	810		Biosludge Holding Tank Agitor			
H	-	14	121		Coke Structure Elevator			
H	-	14	601		Chute for Coke from Drum to Pit			
H	-	14	602		Overhead Bridge Crane			
H	-	14	603		Crusher Inlet Hopper			
H	-	14	604		Coke Crusher			
H	-	14	605		Crusher Discharge Hopper			
H	-	14	606		Enclosed Crushed Coke Conveyor			
H	-	14	607		Coke Product Loading Silo			
H	-	14	608		Rail Car Weigh Scale			
H	-	14	609		Coke Silo Baghouse			
H	-	14	610		Coke Silo Baghouse ID Fan			
H	-	14	120		Coke Drum Un-Heading Car			
P	-	14	200	A/B	Fractionator Reflux Pumps			
P	-	14	201	A/B	Naphtha Recycle Pumps			
P	-	14	202	A/B	Fractionator Ovhd Water Pumps			
P	-	14	203	A/B	LGO PA Pumps			
P	-	14	204	A/B	HGO PA Pumps			
P	-	14	205	A/B	HHGO PA Pumps			
P	-	14	206	A/B	FZGO Pumps			
P	-	14	208	A/B	Furnace Charge Pumps			
P	-	14	218	A/B	LGO Product Pumps			
P	-	14	228	A/B	HGO Product Pumps			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	14	240	A/B	BFW Circulation Pumps			
P	-	14	300		First Stage Suction Drum Pump			
P	-	14	301	A/B	Interstage Drum Naphtha Pumps			
P	-	14	302	A/B	Interstage Drum Water Pumps			
P	-	14	310	A/B	Stripper Feed Pumps			
P	-	14	408	A/B	Stripper Bottoms Pump			
P	-	14	418	A/B	Presaturator Liquid Pumps			
P	-	14	420	A/B	Debutanizer Reflux Pumps			
P	-	14	428	A/B	Debutanizer Bottoms Pumps			
P	-	14	500	A/B	Light Slop Oil Pumps			
P	-	14	501	A/B	Condensed Blowdown Water Pumps			
P	-	14	508	A/B	Heavy Slop Oil Recycle Pumps			
P	-	14	510	A/B	Quench Water Pumps			
P	-	14	511		Decoking Water Jet Pump			
P	-	14	512	A/B	Quench Water Spray Pumps			
P	-	14	520	A/B	Clear Water Basin Sump Pumps			
P	-	14	800		Coke Drum Waste Addition Pump			
P	-	14	801		Waste Injection Charge Pump			
P	-	14	802		Waste Heater Circulation Pump			
P	-	14	812		Biosludge Heater Circulation Pump			
P	-	14	820		Containment Area Sump Pump			
P	-	14	970		OWS Sump Pump			
S	-	14	120		Hydraulic Decoking System			
S	-	14	125		Anti-Foam System			
T	-	14	510		Quench Water Storage Tank			
T	-	14	800		Waste Addition Holding Tank			
T	-	14	810		Biosludge Holding Tank			
V	-	14	110		Steam-Air Decoking Drum			
V	-	14	120	A/B	Coke Drum			
V	-	14	200		Coker Main Fractionator			
V	-	14	201		Fractionator Overhead Reciever			
V	-	14	210		LGO Stripper			
V	-	14	220		HGO Stripper			
V	-	14	240		Steam Drum			
V	-	14	300		First Stage Suction Drum			
V	-	14	301		Interstage Drum			
V	-	14	310		Recontact Drum			
V	-	14	400		Absorber/Stripper			
V	-	14	410		Sponge Oil Absorber Lower Section			
V	-	14	418		Presaturator Water Drawoff Pot			
V	-	14	420		Debutanizer			
V	-	14	421		Debutanizer Reflux Drum			
V	-	14	500		Blowdown Quench Tower			
V	-	14	501		Blowdown Settling Drum			
V	-	14	930		Fuel Gas KO Drum			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	14	990		Flare KO Drum			
Y	-	14	120		Coke Drum Overhead Ejector			
Y	-	14	204	A/B	HGO PA Pump Strainers			
Y	-	14	205	A/B	HHGO PA Pump Strainers			
Y	-	14	206	A/B	FZGO Pump Suction Filters			
Y	-	14	207		Flash Zone Spray Strainers			
Y	-	14	208	A/B	Furnace Charge Pump Strainers			
Y	-	14	228	A/B	HGO Product Pump Strainers			
Y	-	14	501	A/B	Condensed Blowdown Water Pump Strainers			
Y	-	14	508	A/B	Heavy Slop Oil Recycle Pump Strainers			
Y	-	14	510		Decoking Water Jet Pump Strainer			
Y	-	14	511	A/B	Quench Water Pump Strainers			
Y	-	14	512	A/B	Quench Spray Water Pump Strainers			
Y	-	14	520	A/B	Clear Water Basin Sump Pump Strainers			
Y	-	14	801		Waste Circulation Strainer			
Y	-	14	802		Waste Addition Tank Carbon Bed Filter			
Y	-	14	811		Biosludge Circulation Strainer			
Y	-	14	812		Biosludge Holding Tank Carbon Bed Filter			
Y	-	14	950	A/B	HGO Flush Strainers			
C	-	15			Dehydro Effluent Compressor			
C	-	15	01		Makeup Gas Compressor			
E	-	15			Combined Feed Dehydro			
E	-	15			Effluent Air Cond			
E	-	15			Effluent Water Trim			
E	-	15			Reaction Products Cond			
E	-	15			Poly Fd/Hydt Effluent			
E	-	15		A/B	Poly Reaction 1 Charge Heater			
E	-	15		A/B	Poly No 1 Intercooler			
E	-	15		A/B	Poly No 2 Intercooler			
E	-	15			Hydro Feed/Effluent Exchanger			
E	-	15			Hydro Charge Heater			
E	-	15			Hydro Reaction Intercooler			
E	-	15			Hydro Effluent Cond			
E	-	15			Recycle Liquid Cooler			
E	-	15			Dec2 Vapor Feed Cooler			
E	-	15			Dec2 Liquid Feed Cooler			
E	-	15			Dec2 Overhead Air Cond			
E	-	15			Dec2 Water Cond			
E	-	15			Dec2 Refrig Cond			
E	-	15			Dec2 Reboiler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	15			IsoStripper Feed Cooler			
E	-	15			IsoStripper Upper Reboiler			
E	-	15			IsoStripper Bottoms Exchanger			
E	-	15			Rectifier Condenser			
E	-	15			IsoStripper Air Cond			
E	-	15			IsoStripper Bottoms Cooler			
E	-	15			Dehydro Charge Heater			
E	-	15			Dehydro Interheater			
E	-	15			IsoStripper Reboiler			
E	-	15	00		Regenerant Electric Superheater			
E	-	15	02		Compressor Discharge Cooler			
E	-	15	16		Cold Combined Feed Exchanger			
E	-	15	17		Hot Combined Feed Exchanger			
E	-	15	18		Isom Reactor Heater			
E	-	15	23		Stabilizer Feed Bottoms Exchanger			
E	-	15	24		Stabilizer Air Condenser			
E	-	15	25		Stabilizer Water Condenser			
E	-	15	27		Stabilizer Net Gas Chiller			
E	-	15	30		Stabilizer Reboiler			
E	-	15	32		Stabilizer Bottoms Air Cooler			
E	-	15	46		Fresh Regenerant Vaporizer			
E	-	15	49		Spent Regenerant Air Condenser			
E	-	15	50		Spent Regenerant Water Condenser			
E	-	15	56		Caustic Heater			
P	-	15			DMDS Injection Pump			
P	-	15			Dehydro Separator			
P	-	15			Wash Oil Pump			
P	-	15			Separator Gas Absorber			
P	-	15			Butane Quench Pump			
P	-	15			Condensate Injection			
P	-	15			Dec2 Reflux			
P	-	15			IsoStripper Reboiler			
P	-	15			IsoStripper Reflux			
P	-	15			Recycle Liquid			
P	-	15			Rectifier Bottoms			
P	-	15			Rectifier Overhead			
P	-	15	5		Isom Feed Pump			
P	-	15	6		Chloride Injection Pump			
P	-	15	8		Stabilizer Reflux Pump			
P	-	15	24		Caustic Circulation Pump			
P	-	15	25		Caustic Transfer Pump			
P	-	15	26		Water Injection Pump			
P	-	15	27		Chloride Transfer Pump			
V	-	15			Blowdown Drum			
V	-	15			Steam Disengaging Drum			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	15			DMDS Injecting Drum			
V	-	15			Compressor Suction Drum			
V	-	15			Chloride Treater			
V	-	15			Heavies Separator			
V	-	15			Dehydro Separator			
V	-	15			Product Separator			
V	-	15			DeEthanizer Receiver			
V	-	15			IsoStripper Receiver			
V	-	15			Rectifier Receiver			
V	-	15			Sep Gas Absorber			
V	-	15			Recycle Gas Absorber			
V	-	15			Dec2 Column Bottom			
V	-	15			Dec2 Column Top			
V	-	15			IsoStripper Column Top			
V	-	15			IsoStripper Column Bottom			
V	-	15			Rectifier Column			
V	-	15	01		Makeup Compressor Suction Drum			
V	-	15	03		Makeup Gas Knockout Drum			
V	-	15	04	A/B	Makeup Gas Drier			
V	-	15	13	A/B	Isom Feed Drier			
V	-	15	16		Isom Feed Surge Drum			
V	-	15	18		Isom Lead Reactor			
V	-	15	20		Isom Lag Reactor			
V	-	15	23		Chloride Drum			
V	-	15	24		Stabilizer			
V	-	15	25		Stabilizer Receiver			
V	-	15	29		Caustic Scrubber			
V	-	15	38	A/B	Regenerant Drier			
R	-	15		A/B	Dehydro Reactor			
R	-	15		A/B/ C	Poly Reactor			
R	-	15		A/B	Hydro Reactor			
Y	-	15			Poly Reaction Filter			
E	-	16	51		Makeup Compressor Discharge Cooler			
E	-	16	52		Sulfur Guard Bed Feed Reactor Eff Exchanger			
E	-	16	53		Saturation Reactor Combined Feed-Eff Exch			
E	-	16	54		Saturation Reactor Charge Heater			
E	-	16	55		Saturation Reactor Product Cooler			
E	-	16	56		Stabilizer Feed Bottoms Exchanger			
E	-	16	58		Stabilizer Reboiler			
E	-	16	59		Stabilizer Condenser			
E	-	16	60		Stabilizer Bottoms Cooler			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
J	-	16	51		Ejector			
K	-	16	51	A/B	Makeup Compressors			
P	-	16	51	A/B	Charge Pumps			
P	-	16	52	A/B	Stabilizer Overhead Pumps			
P	-	16	53	A/B	Recycle Pumps			
R	-	16	51	A/B	Saturation Reactor			
SV-	1651	16	51	A/B	Makeup Compressor Suction Drum			
SV-	1652	16	52	A/B	Makeup Compressor Discharge			
SV-	1653	16	53	A/B	Makeup Gas Knockout Drum			
SV-	1655	16	55	A/B	Feed Surge Drum			
SV-	1656	16	56	A/B	Sulfur Guard Bed			
SV-	1657	16	57	A/B	Saturation Reactor Charge Heater			
SV-	1658	16	58	A/B	Sulfur Guard Bed Feed Reactor Eff Exchanger			
SV-	1659	16	59	A/B	Saturation Reactor			
V	-	16	51		Makeup Compressor Suction Drum			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
V	-	16	52		Makeup Gas Knockout Drum			
V	-	16	53		Zinc Oxide Treater			
V	-	16	54		Feed Surge Drum			
V	-	16	55		Sulfur Guard Bed			
V	-	16	56		Saturation Receiver			
V	-	16	57		Stabilizer			
V	-	16	58		Stabilizer Receiver			
V	-	16	59		Saturation Reactor Charge Heater Cond. Pot			
V	-	16	60		Stabilizer Reboiler Condensate Pot			
A	-	260	01	A/B	API Vent Gas Fans			
A	-	260	02	A/B	DAF Vent Gas Fan			
A	-	260	08	A/B	Equalization Tank Air Blowers			
A	-	260	53		Guard Pond Vent Fan			
A	-	261	01	A/B	Bioreactor Air Blowers			
A	-	261	01	A/B	Bioreactor Air Blowers			
A	-	262	04	A/B	Air Scour Blowers			
A	-	265	02		Air Heater Air Blower			
A	-	265	03	A/B	Spray Dryer ID Fans			
A	-	266	01	A/B	Oxidation Air Compressor			
A	-	269	01		Combustion Air Fan			
A	-	269	02		Purge Air Fan			
A	-	269	03		Induced Draft Fan			
B	-	269	01		Thermal Oxidizer			
B	-	269	02		RTO Stack			
E	-	261	01		Bioreactor Air Blower Air Cooler			
E	-	263	95		Cleaning Solution Tank Heater			
E	-	264	01		Concentration Cooling Tower			
E	-	264	02		Brine Heater			
E	-	265	02		Air Heater			
E	-	266	01		PACT Sludge Heat Exchanger			
E	-	268	11		Emulsion Breaking Heat Exch.			
F	-	262	04	A-D	Dual Media Filters			
F	-	265	03		Bag House			
P	-	260	02	A/B	API Skimmed Oil Pump			
P	-	260	03	A/B	API Oily Sludge Pump			
P	-	260	06	A/B	DAF Recirculation Pump			
P	-	260	07	A/B	DAF Float Sump Pump			
P	-	260	08	A/B	Biotreater Feed Pumps			
P	-	260	51	A/B	ETP Drain Sump Pump			
P	-	260	52	A/B	ETP Rain Sump Pump			
P	-	260	53	A/B	Guard Pond Oily Water Pump			
P	-	260	54	A/B	Guard Pond Skimmed Oil Pump			
P	-	261	01	A/B	Jet Aeration Pumps			
P	-	261	02	A/B	Clarifier Sludge Recycle Pumps			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	261	03	A/B	Scum Sump Pump			
P	-	262	01	A/B	Softener Feed Pumps			
P	-	262	02	A/B	Sludge Recycle Pumps			
P	-	262	03	A/B	Filter Feed Pumps			
P	-	262	04	A/B	Filter Backwash Pumps			
P	-	263	01	A/B	First Stage R.O. Feed Pumps			
P	-	263	02	A/B	Second Stage R.O. Feed Pumps			
P	-	263	03	A/B	R.O. Sump Pump			
P	-	263	95		Cleaning Solution Tank			
P	-	264	01	A/B	Brine Circulation Pumps			
P	-	265	01	A/B	Spray Dryer Feed Pumps			
P	-	266	01	A/B	PACT Sludge Pumps			
P	-	266	02	A/B	PACT Return Pumps			
P	-	267	01	A/B	Biological Thickened Underflow			
P	-	267	03	A/B	BFP Filtrate Return Pumps			
P	-	268	01	A/B	Settling Tank Underflow Pumps			
P	-	268	02	A/B	Oily Thickened Sludge Pumps			
P	-	268	11	A/B	Emulsion Breaking Recirculation			
P	-	268	15	A/B	Treated Wastewater Pumps			
S	-	260	10		Caustic Injection Package			
S	-	260	20		Acid Injection Package			
S	-	260	30		Polymer #1 Injection Package			
S	-	260	40		FeCl3 Injection Package			
S	-	260	50		Polymer #2 Injection Package			
S	-	262	40		Polymer Injection Package			
S	-	263	10		First Stage R.O. Package			
S	-	263	20		Second Stage R.O. Package			
S	-	263	30		Antiscalant Dosing Package			
S	-	263	90		R.O. Chemical Cleaning Package			
S	-	267	10		Biological Sludge Belt Filter Press			
S	-	267	20		BFP Polymer Injection Package			
S	-	268	20		Emulsion Breaking Polymer Injection Package			
S	-	269	01		Thermal Oxidizer Package			
T	-	260	02		Skimmed Oil Sump			
T	-	260	03		API Oily Sludge Sump			
T	-	260	04		Flash Mixing Tank			
T	-	260	05		Flocculation Tank			
T	-	260	07		DAF Float Sump			
T	-	260	08		Equalization Tank			
T	-	261	01		Bioreactor			
T	-	261	02		Clarifier Basin			
T	-	262	01		Softener Feed Tank			
T	-	262	03		Softened Water Tank			
T	-	263	01		R. O. Feed Tank			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
T	-	263	02		Second Stage R. O. Feed Tank			
T	-	263	03		R. O. Drain Sump			
T	-	263	95		Cleaning Solution Tank			
T	-	263	95		Cleaning Solution Tank Mixer			
T	-	265	01		Spray Drier Feed Tank			
T	-	266	01		PACT Sludge Holding Tank			
T	-	267	01		Biological Sludge Thickener			
T	-	267	03		BFP Filtrate Tank			
T	-	268	01		Oily Sludge Settling Tank			
T	-	268	02		Oily Sludge Thickener Tank			
T	-	268	11		Slop Oil Holding Tank			
T	-	268	12		Emulsion Breaking Tank			
T	-	268	15		Treated Wastewater Tank			
V	-	260	06		DAF Pressurization Vessel			
V	-	262	02		Warm Lime Softener			
V	-	263	03		Caustic Day Tank			
V	-	265	02		Spray Dryer Chamber			
V	-	266	01		Reactor			
V	-	266	02		Degasser			
V	-	269	01		Water Seal Drum			
Y	-	260	01		Disc Oil Skimmer			
Y	-	260	02	A/B	API Separators			
Y	-	260	04		Flash Mixing Tank Mixer			
Y	-	260	05		Flocculation Tank Mixer			
Y	-	260	06		DAF Unit			
Y	-	260	53		Floating Skimmer			
Y	-	261	02		Clarifier Scraper			
Y	-	267	01		Biological Sludge Thickener Scraper			
Y	-	267	02		Inline Static Mixer			
Y	-	268	01		Oily Sludge Tank Mixer			
Y	-	268	02		Oily Sludge Thickener Tank Scraper			
Y	-268	268	11		Slop Oil Holding Tank Mixer			
Y	-268	268	12		Emulsion Breaking Tank Mixer			
V	-	411	01		Metering Facility Drain Drum			
P	-	411	01		Metering Facility Drain Pump			
S	-	410	01	A/B	Custody Transfer Metering Skids			
Y	-	411	01		Drain Drum Carbon Filter			
E	-	421	01		Crude Storage Tank Heating Coil			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
E	-	421	02		Crude Storage Tank Heating Coil			
E	-	421	03		Crude Storage Tank Heating Coil			
E	-	421	04		Crude Storage Tank Heating Coil			
E	-	421	05		Crude Storage Tank Heating Coil			
E	-	421	06		Crude Storage Tank Heating Coil			
E	-	421	07		Crude Storage Tank Heating Coil			
E	-	422	09		Hydrocracker Feed Tank Heater			
E	-	422	10		Hydrocracker Feed Tank Heater			
E	-	422	13		Coker Feed Tank Heater			
F	-	421	01	A-C	Crude Storage Tank Mixers			
F	-	421	02	A-C	Crude Storage Tank Mixers			
F	-	421	03	A-C	Crude Storage Tank Mixers			
F	-	421	04	A-C	Crude Storage Tank Mixers			
F	-	421	05	A-C	Crude Storage Tank Mixers			
F	-	421	06	A-C	Crude Storage Tank Mixers			
F	-	421	07	A-C	Crude Storage Tank Mixers			
F	-	422	05	A-C	Distillate Hydrotreater Tank Mixers			
F	-	422	06	A-C	Distillate Hydrotreater Tank Mixers			
F	-	422	07	A-C	Distillate Hydrotreater Tank Mixers			
F	-	422	08	A-C	Distillate Hydrotreater Tank Mixers			
F	-	422	09	A-C	Hydrocracker Feed Tank Mixers			
F	-	422	10	A-C	Hydrocracker Feed Tank Mixers			
F	-	422	13	A-C	Coker Feed Tank Mixers			
P	-	421	01	A/D	Crude Unit Charge Pumps			
P	-	421	09	A/B	Natural Gasoline Charge Pumps			
P	-	421	10	A/B	Natural Gasoline Charge Pumps			
P	-	422	01	A/B	Naphtha Hydrotreater Feed Pumps			
P	-	422	05	A/B	Distillate Hydrotreater Feed Pumps			
P	-	422	07	A/B	Distillate Hydrotreater Feed Pumps			
P	-	422	09	A/B	Hydrocracker Feed Pumps			
P	-	422	13	A/B	Coker Feed Pumps			
P	-	422	15	A/B	Isomerization Unit Feed Pumps			
P	-	422	17	A/B	Reformer Unit Feed Pumps			
P	-	423	01	A/B	Ethanol Feed Pumps			
P	-	423	03	A/B	Ether Feed Pumps			
P	-	423	05	A/B	Alkylate Feed Pumps			
P	-	423	11	A/B	Isomerate Blending Pumps			
P	-	423	13	A/B	Hydrocracked Light Naphtha			
P	-	423	15	A-C	High Octane Reformate Blending			
P	-	423	17	A-C	Low Octane Reformate Blending			
P	-	424	01	A-D	Gasoline Loading Pumps			
P	-	424	02	A-C	RFG/ACBG Regular Gasoline Loading Pumps			
P	-	424	03	A/B	RFG/ACBG Premium Gasoline Loading Pumps			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
P	-	424	11	A/B	Offspec Gasloline Pumps			
P	-	424	21	A/B	Gasoline Pipeline Pumps			
P	-	425	01	A/B	Jet Road Loading Pumps			
P	-	425	05	A/B	Jet Pipeline Pumps			
P	-	425	25	A/B	Diesel Loading Pumps			
P	-	426	01	A/B	LPG Loading Pumps			
P	-	426	05	A/B	Mixed C4 Loading Pumps			
T	-	421	01		Crude Storage Tank			
T	-	421	02		Crude Storage Tank			
T	-	421	03		Crude Storage Tank			
T	-	421	04		Crude Storage Tank			
T	-	421	05		Crude Storage Tank			
T	-	421	06		Crude Storage Tank			
T	-	421	07		Crude Storage Tank			
T	-	421	09		Natural Gasoline Storage Tank			
T	-	421	10		Natural Gasoline Storage Tank			
T	-	422	01		Naphtha Hydrotreater Feed Tank			
T	-	422	05		Distillate Hydrotreater Feed Tank			
T	-	422	06		Distillate Hydrotreater Feed Tank			
T	-	422	07		Distillate Hydrotreater Feed Tank			
T	-	422	08		Distillate Hydrotreater Feed Tank			
T	-	422	09		Hydrocracker Feed Storage Tank			
T	-	422	10		Hydrocracker Feed Storage Tank			
T	-	422	13		Coker Feed Tank			
T	-	422	15		Isomerization Feed Storage Tank			
T	-	422	17		Reformer Feed Tank			
T	-	423	01		Ethanol Storage Tank			
T	-	423	03		Ether Storage Tank			
T	-	423	05		Alkylate Storage tank			
T	-	423	06		Alkylate Storage tank			
T	-	423	11		Isomerate Storage Tank			
T	-	423	12		Isomerate Storage Tank			
T	-	423	13		Hydrocracked Light Naphtha Storage Tank			
T	-	423	15		High Octane Reformate Storage Tank			
T	-	423	16		High Octane Reformate Storage Tank			
T	-	423	17		Low Octane Reformate Storage Tank			
T	-	423	18		Low Octane Reformate Storage Tank			
T	-	424	01		Gasoline Product Tank			
T	-	424	02		Gasoline Product Tank			
T	-	424	03		Gasoline Product Tank			
T	-	424	04		Gasoline Product Tank			
T	-	424	05		Gasoline Product Tank			
T	-	424	06		Gasoline Product Tank			
T	-	424	07		Gasoline Product Tank			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
T	-	424	08		Gasoline Product Tank			
T	-	424	09		Gasoline Product Tank			
T	-	424	10		Gasoline Product Tank			
T	-	425	01		Jet Product Storage Tank			
T	-	425	02		Jet Product Storage Tank			
T	-	425	03		Jet Product Storage Tank			
T	-	425	05		Diesel Product Tank			
T	-	425	06		Diesel Product Tank			
T	-	425	07		Diesel Product Tank			
T	-	426	01		LPG Sphere			
T	-	426	02		LPG Sphere			
T	-	426	05		Butane/Butylene Storage Sphere			
T	-	426	06		Butane/Butylene Storage Sphere			
T	-	426	07		Butane/Butylene Storage Sphere			
T	-	426	08		Butane/Butylene Storage Sphere			
B	-	429	01		Thermal Oxidizer			
B	-	429	02		RTO Stack			
P	-	430	01	A/B	Gas Oil Flushing Oil Pumps			
P	-	430	02	A/B	Flushing Oil Transfer Pumps			
P	-	430	03	A/B	Delayed Coker Flushing Oil Pumps			
P	-	430	11		Straight Run Slop Oil Transfer Pump			
P	-	430	05	A	Cracked Slop Oil Transfer Pump			
P	-	430	05	B	Straight Run/Cracked Slop			
P	-	430	15	A/B	Heavy Slop Oil Transfer Pumps			
T	-	430	01		Gas Oil Flushing Oil Tank			
T	-	430	02		Diesel Flushing Oil Tank			
T	-	430	11		Straight Run Slop Oil Tank			
T	-	430	12		Straight Run Slop Oil Tank			
T	-	430	13		Cracked Slop Oil Tank			
T	-	430	14		Cracked Slop Oil Tank			
T	-	430	15		Heavy Oil Slop Tank			
T	-	430	16		Heavy Oil Slop Tank			
V	-	431	01		Cracked Slop Oil Coalescer			
V	-	431	02		Slop Oil Coalescer Relief Drum			
A	-	440	01	A/B	Vapor Recovery Blowers			
A	-	441	01		Vapor Booster Blower			
A	-	442	01	A/B	Vapor Blowers			
B	-	443	01		Combustor			
C	-	441	01		Liquid Ring Vacuum Pump			
E	-	441	12		Seal Fluid Cooler			
P	-	440	01		Vapor Recovery Drum Drain Pump			
P	-	440	51	A/B	Absorbent Supply Pumps			
P	-	441	11	A/B	Rich Adsorbent Return Pump			
S	-	441	01		Vapor Recovery Unit			
S	-	442	01		Vapor Blower Package			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
S	-	443	01		Vapor Combustion Package			
T	-	440	51		Vapor Recovery Unit Absorbent Tank			
V	-	440	01		Vapor Recovery Drain Drum			
V	-	441	01	A/B	Carbon Bed Adsorber			
V	-	441	11		Adsorber Separator			
V	-	447	01		Vapor Revovery Knockout Drum			
S	-	452	10		Additive #1 Additive System			
S	-	452	20		Additive #2 Additive System			
A	-	464	01		Vapor Extraction Fan			
P	-	460	01	A/B	Alkylate Transfer Pumps			
P	-	460	02	A/B	Natural Gas Transfer Pump			
P	-	460	03	A/B	Ethanol Transfer Pump			
P	-	461	01	A/B	Natural Gasoline Rail Unloading Pumps			
P	-	461	02	A/B	Alkylate Rail Unloading Pumps			
P	-	461	03	A/B	Ethanol Rail Unloading Pumps			
P	-	461	04	A/B	Ether Rail Unloading Pumps			
S	-	462	20		Odorant Injection System			
Y	-	460	01	A/C	Alkylate Unloading Arm			
Y	-	460	02	A/E	Natural Gasoline Unloading Arm			
Y	-	460	03	A/E	Ethanol Unloading Arm			
Y	-	460	04	A/G	C3 Loading Arm			
Y	-	460	05	A/G	C4 Loading Arm			
Y	-	460	06	A/G	Sulphur Loading Arm			
Y	-	461	01	A-J	Natural Gasoline Rail Unloading Arms			
Y	-	461	01	A-E	Ethanol Rail Unloading Arms			
Y	-	461	02	A-C	Alkylate Rail Unloading Arms			
Y	-	461	04	A-E	Ether Rail Unloading Arms			
Y	-	461	51	A-J	Natural Gasoline Vapor Balancing Arms			
Y	-	462	01	A-E	LPG Rail Loading Arms			
Y	-	462	02	A-E	LPG Rail Loading Arms			
Y	-	462	03	A-E	LPG Vapor Recovery Arms			
Y	-	463	01	A-J	Mixed C4's Rail Loading Arms			
Y	-	463	03	A-J	Mixed C4's Vapor Recovery Arms			
Y	-	464	01		Sulphur Rail Loading Arm			
B	-	469	01		Thermal Oxidizer			
B	-	469	02		RTO Stack			
Y	-	470	01	A/B	C3 Loading Arms			
Y	-	470	02	A/B	C4 Loading Arms			
Y	-	470	03	A/E	Gasoline Loading Arms			
Y	-	460	04	A/B	Diesel Loading Arms			
Y	-	471	01	A/B	LPG Road Loading Arms			
Y	-	471	03	A/B	LPG Vapor Recovery Arms			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture
Y	-	472	01	A-C	Conventional Gasoline Road Loading Arms			
Y	-	472	02	A-C	Conventional Gasoline Road Loading Arms			
Y	-	472	03	A-C	Conventional Gasoline Road Loading Arms			
Y	-	472	05	A-C	Conventional Gasoline Vapor Recovery Arms			
Y	-	473	01	A-L	RFG/ACBG Gasoline Road Loading Arms			
Y	-	473	02	A-L	RFG/ACBG Gasoline Road Loading Arms			
Y	-	473	03	A-L	RFG/ACBG Gasoline Road Loading Arms			
Y	-	473	05	A-L	RFG/ACBG Gasoline Vapor Recovery Arms			
Y	-	476	01	A-I	Jet Road Loading Arms			
Y	-	478	01		Sulfur Road Loading Arm			
B	-	479	01		Thermal Oxidizer			
B	-	479	02		RTO Stack			
P	-	510	01	A/B	Oily Water Lift Station No. 1 Sump Pumps			
P	-	510	02	A/B	Oily Water Lift Station No. 2 Sump Pumps			
P	-	510	03	A/B	Oily Water Lift Station No. 3 Sump Pumps			
P	-	510	04	A/B	Oily Water Lift Station No. 4 Sump Pumps			
P	-	510	05	A/B	Oily Water Lift Station No. 5 Sump Pumps			
P	-	510	11	A/D	Oily Water Lift Station No. 6 Sump Pumps			
P	-	510	21	A/B	Slop Oil Lift Station No. 6 Pumps			
Y	-	510	11		Lift Station No. 6 Belt Oil Skimmer			
K	-	602	01		Drain Drum Carbon Filter			
K	-	605	01		Drain Drum Carbon Filter			
P	-	601	01	A/B	Product Pipeline Transfer Pumps			
P	-	602	01	A/B	Pig System Drain Pumps			
P	-	605	01		Pig System Drain Pump			
S	-	601	01		Custody Transfer Meter			
S	-	605	01		Custody Transfer Meter			
V	-	602	01		Pig System Drain Drum			
V	-	605	01		Pig System Drain Drum			
Y	-	601	01		Pig Launcher			
Y	-	605	01		Pig Receiver			

Permitted Equipment								
Equipment ID					Description	Size	Model	Date of Commercial Operation/ Manufacture