

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

TO CONSTRUCT AIR EMISSIONS EQUIPMENT

THIS CERTIFIES THAT

Chevron Products Company
Pascagoula Refinery
250 Industrial Road
Pascagoula, Mississippi
Jackson County

“FCC/Alky Moderate Modification Project”

has been granted permission to construct air emissions equipment to comply with the emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

**Issued: May 24, 2005
Modified: February 7, 2007**

Permit No.: 1280-00058

Modified: APR 14 2009

Part I.
GENERAL CONDITIONS

1. Any activities not identified in the application are not authorized by this permit.
2. All air pollution control facilities shall be designed and constructed such as to allow proper operation and maintenance of the facilities.
3. The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits.
4. The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation APC-S-1, "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10.
5. The construction of facilities shall be performed in such a manner as to reduce both point source and fugitive dust emissions to a minimum.
6. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon presentation of credentials:
 - a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and
 - b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emissions.
7. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:
 - a. Violation of any terms or conditions of this permit.
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts, or
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of authorized air emissions.

8. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control.
9. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
10. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances.
11. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.
12. This permit is for air pollution control purposes only.
13. Approval to construct will expire should construction not begin within eighteen (18) months of the issuance of this permit, or should construction be suspended for eighteen (18) months.
14. Prior to startup of air emissions equipment at this source, the permittee must obtain a Permit to Operate and submit certification that construction was completed in accordance with the approved plans and specifications.

Part II.
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning May 24, 2005, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AH-051 (formerly AA-051), the Fluidized-bed Catalytic Cracking Unit (FCCU) Catalyst Regenerator (Reference No. F-1603). The FCCU Catalyst Regenerator is equipped with an electrostatic precipitator (K-1603) to control particulate matter emissions.

Emission Point AH-051 includes air emissions from fuel combustion and flue gases from catalyst regeneration. Emission Point AH-051 is subject to and shall comply with the New Source Performance Standards (NSPS) for Petroleum Refineries, as described in 40 CFR Part 60, Subpart J, and the NSPS General Provisions, 40 CFR Part 60, Subpart A. Emission Point AH-051 is also subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units - 40 CFR Part 63, Subpart UUU, and the NESHAP General Provisions - 40 CFR Part 63, Subpart A.

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSION LIMITATIONS*

Particulate Matter	111 lb/hr (3-hr rolling average, determined hourly) and 121.50 tons/year (12-month rolling total, determined monthly)
PM ₁₀	111 lb/hr (3-hr rolling average, determined hourly) and 121.50 tons/year (12-month rolling total, determined monthly)
Sulfur Dioxide	500 lb/hr (3-hr rolling average, determined hourly) and 153.50 tons/year (12-month rolling total, determined monthly)
Nitrogen Oxides	375 lb/hr (3-hr rolling average, determined hourly) and 282.00 tons/year (12-month rolling total, determined monthly)
Carbon Monoxide	588 lb/hr (1-hr average, determined hourly) and 573.00 tons/year (12-month rolling total, determined monthly)

Sulfuric Acid	47.36 lb/hr (3-hr rolling average, determined hourly) and 7.05 tons/year (12-month rolling total, determined monthly)
Volatile Organic Compounds	59.13 lb/hr (3-hr rolling average, determined hourly) and 25.90 tons/year (12-month rolling total, determined monthly)
Ammonia	21.0 lb/hr (24-hr block average, determined daily) and 92.0 tons/year (12-month rolling total, determined monthly)
Hydrogen Cyanide	4.0 lb/hr (3-hr block average) and 17.5 tons/year (12-month rolling total, determined monthly)
Opacity	30% (6-minute average), except for one six-minute average opacity reading in any one hour

* The ammonia and hydrogen cyanide emission limits were established in a Permit to Construct issued December 17, 1996.

CONSENT DECREE EMISSION LIMITATIONS

Upon entry of the Consent Decree, the following permit limits will become effective on the compliance dates specified in the Consent Decree.

Sulfur Dioxide	Interim limit: 100 ppmvd at 0% O ₂ (365-day rolling Average) Final limit: 25 ppmvd at 0% O ₂ (365-day rolling average) and 50 ppmvd at 0% O ₂ (7-day rolling average)
Carbon Monoxide	500 ppmvd at 0% O ₂ on a 1-hour average basis

40 CFR PART 60, SUBPART J: NSPS FOR PETROLEUM REFINERIES

Standards for Particulate Matter:

The permittee shall not discharge or cause the discharge into the atmosphere from Emission Point AH-051 of: (1) particulate matter in excess of 2.0 pounds of PM per ton of coke burn-off (or 1 lb PM/1,000 lb coke burn-off) in the catalyst regenerator, not to

exceed 111 lb/hr (3-hour average) and 121.50 tons/year, and (2) gases exhibiting greater than 30 percent opacity (6-minute average), except for one six-minute average opacity reading in any one-hour period. (Ref.: §60.102(a))

Standard for Carbon Monoxide:

The permittee shall not discharge or cause the discharge into the atmosphere from Emission Point AH-051 any gases that contain carbon monoxide (CO) in excess of 500 ppm by volume (dry basis), not to exceed 588 lbs/hr (1-hour average) and 573.00 tons/year. (Ref.: §60.103(a))

Standard for Sulfur Oxides:

For Emission Point AH-051, the permittee shall process in the fluid catalytic cracking unit (FCCU) fresh feed that has a total sulfur content no greater than 0.30 percent by weight, as determined daily on a 7-day rolling average basis. (Ref.: 40 CFR 60.104(b)(3) and (c))

If the permittee elects at a later date to comply with an alternative provision of §60.104(b), then the DEQ shall be notified by the permittee in the report described in §60.107(c). (Ref.: §60.107(a))

The permittee shall meet this standard at all times, including periods of startup, shutdown, and malfunction. (Ref.: 40 CFR 60.108(b))

40 CFR PART 63, SUBPART UUU: NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units

Emission Limitations and Work Practice Standards for Metal HAP Emissions from Catalytic Cracking Units (Ref.: §63.1564(a)):

The permittee shall comply with the standards for particulate matter, §60.102, in 40 CFR Part 60, Subpart J (NSPS for Petroleum Refineries) to meet the requirements of §63.1564(a). The permittee shall comply with each operating limit in Table 2 of this subpart. The permittee shall also prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan. The emission limitations and operating limits for metal HAP emissions from catalytic cracking units required in §63.1564(a)(1) and (2) do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in §63.1575(j).

Emission Limitations and Work Practice Standards for Organic HAP Emissions from Catalytic Cracking Units (Ref.: §63.1565(a))

The permittee shall comply with the standards for carbon monoxide, §60.103, in 40 CFR Part 60, Subpart J (NSPS for Petroleum Refineries) to meet the requirements of §63.1565(a). The permittee shall comply with each applicable site-specific operating limit in Table 9 of this subpart. The permittee shall also prepare an operation, maintenance, and monitoring plan according to the requirements in §63.1574(f) and operate at all times according to the procedures in the plan. The emission limitations and operating limits for organic HAP emissions from catalytic cracking units required in §63.1565(a)(1) and (2) do not apply during periods of planned maintenance preapproved by the applicable permitting authority according to the requirements in §63.1575(j).

TEST METHODS AND PROCEDURES

Within 60 days after achieving the maximum production rate at which Emission Point AH-051 will be operated, but no later than 180 days after completion of physical changes to the FCCU Catalyst Regenerator, the permittee shall demonstrate initial compliance with the emission limits and standards for the following pollutants by stack testing in accordance with the specified method.

Particulate Matter	EPA Test Methods 1-4, 5B or 5F (40 CFR Part 60, Appendix A)
PM ₁₀	EPA Test Method 201 or 201A in conjunction with Test Method 202, or an approved alternative (40 CFR Part 51, Appendix M)
Sulfur Dioxide	EPA Test Method 6C (40 CFR Part 60, Appendix A)
Nitrogen Oxides	EPA Test Method 7 (40 CFR Part 60, Appendix A)
Carbon Monoxide	EPA Test Method 10A (40 CFR Part 60, Appendix A)
Sulfuric Acid	EPA Test Method 8 or an approved alternative (40 CFR Part 60, Appendix A)
Volatile Organic Compounds	EPA Test Method 18, 25, or 25A (40 CFR Part 60, Appendix A)
Hydrogen Cyanide	EPA Draft Conditional Test Method 033 (CTM- 033); State of California Air Resources Board Method 426; or an approved alternative
Opacity	EPA Test Method 9 (40 CFR Part 60, Appendix A)

For the purpose of demonstrating compliance, the permittee shall operate the emission unit at its maximum capacity.

For the purpose of demonstrating compliance with the particulate matter (PM) standard expressed in §60.102(a), the permittee shall use the procedures in §60.106(b) to calculate the emission rate of PM in lb PM/ton coke burn-off.

For the purpose of demonstrating compliance with the opacity limit, the permittee shall conduct the opacity observations concurrently with the performance test.

The permittee shall submit a test protocol at least thirty (30) days prior to the scheduled test date to ensure that all test methods and procedures are acceptable to DEQ. If the initial test protocol is acceptable, subsequent test protocols may be waived if these protocols contain no significant changes. Also, the DEQ must be notified prior to the scheduled test date. At least ten (10) days notice shall be given so that an observer may be scheduled to witness the test(s).

MONITORING REQUIREMENTS

Particulate Matter:

To demonstrate compliance with the lb/hr and tons/year PM/PM₁₀ emission limits, the permittee shall install, calibrate, maintain, and operate a continuous monitoring system for monitoring and recording the opacity of emissions to the atmosphere. The instrument shall be spanned at 60, 70, or 80 percent opacity. (Ref.: §60.105(a)(1)) The continuous monitoring system shall meet the performance specifications required by 40 CFR Part 60, Appendix B, the quality assurance procedures required in 40 CFR Part 60, Appendix F, and the requirements of 40 CFR §60.11 and §60.13.

The permittee shall conduct biennial stack tests for particulate matter per the protocol specified in “Test Methods and Procedures” above.

Carbon Monoxide:

To demonstrate compliance with the ppmv, lb/hr, and tons/year CO emission limits, the permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for monitoring and recording the concentration by volume (dry basis) of CO and O₂ emissions to the atmosphere. The span value for the CO CEMS instrument shall be 1,000 ppm CO. (Ref.: §60.105(2)) The continuous monitoring system shall meet the applicable requirements of 40 CFR 60.13, including the applicable performance specifications required by 40 CFR Part 60, Appendix B the applicable quality assurance procedures required in 40 CFR Part 60, Appendix F.

Sulfur Oxides:

To demonstrate compliance with the ppmv, lb/hr, and tons/year SO₂ emission limits, the permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for monitoring and recording the concentration by volume of SO₂ and O₂ emissions to the atmosphere. The CEMS shall meet the applicable performance specifications required by 40 CFR Part 60, Appendix B, the applicable quality assurance procedures required in 40 CFR Part 60, Appendix F, and the requirements of 40 CFR §60.13. In lieu of the requirements of 40 CFR Part 60, Appendix F §§5.1.1, 5.1.3, and 5.1.4, Chevron may conduct either a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each CEMS at least once every three (3) years. Chevron shall conduct Cylinder Gas Audits (CGA) each calendar quarter during which a RAA or a RATA is not performed.

The permittee shall collect at least one fresh feed sample for each 12-hour operating shift. The fresh feed sample shall be analyzed separately by using an analytical test method specified in §60.106(j)(2), or an approved alternative. If a fresh feed sample cannot be collected at a single location, the fresh feed sulfur content shall be determined using the procedures specified in §60.106(j)(3). The 7-day average sulfur content shall be calculated using all of the fresh-feed sulfur content values obtained during seven successive 24-hour periods. (Ref.: 40 CFR 60.106(j) and EPA Letter Dated 1/31/2005)

Nitrogen Oxides:

To demonstrate compliance with the lb/hr and tons/year NO_x emission limits, the permittee shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for monitoring and recording the concentration by volume of NO_x and O₂ emissions to the atmosphere. The CEMS shall meet the applicable performance specifications required by 40 CFR Part 60, Appendix B, the applicable quality assurance procedures required in 40 CFR Part 60, Appendix F, and the requirements of 40 CFR §60.13. In lieu of the requirements of 40 CFR Part 60, Appendix F §§5.1.1, 5.1.3, and 5.1.4, Chevron may conduct either a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each CEMS at least once every three (3) years. Chevron shall conduct Cylinder Gas Audits (CGA) each calendar quarter during which a RAA or a RATA is not performed.

Volatile Organic Compounds:

Within 180 days of completing construction, the permittee shall submit a plan for demonstrating compliance with the lb/hr and tons/year VOC emission limits. This monitoring plan shall be submitted to the Environmental Permits Division of DEQ for prior approval and shall be implemented upon approval. Until such time that the monitoring plan is approved, the permittee shall use emission factors from the most recent stack test(s) to demonstrate compliance with the permit limits. The plan shall include at minimum the following information:

- (a) The operating parameter(s) to be monitored and the method and frequency of monitoring;
- (b) The relationship, or correlation, between the monitored parameter(s) and the VOC emission rate;
- (c) The calculations, stack test data, monitoring data, etc. used for establishing the correlation.

The permittee shall conduct biennial stack tests for VOC per the protocol specified in “Test Methods and Procedures” above.

Ammonia:

The permittee shall monitor the injection of aqueous ammonia solution on a daily basis.

RECORDKEEPING REQUIREMENTS

The permittee shall record and maintain the following information in accordance with Part III, Condition 1:

- (a) The monthly maximum and monthly average 1-hour CO emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling CO emission total in ton/year, calculated for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.
- (c) The monthly maximum and monthly average 3-hour SO₂ and H₂SO₄ emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling SO₂ and H₂SO₄ emission totals in ton/year, calculated for each month of the semiannual period.
- (d) Sample calculations and a description of the methods used to determine the lb/hr and ton/year emission rates for all pollutants required to be monitored.

- (e) The monthly maximum and monthly average 3-hour PM/PM₁₀ emission rates in lb/hr and the 12-month rolling PM/PM₁₀ emission total in ton/year, calculated for each month of the semiannual period.
- (f) The monthly average 6-minute opacity for each month of the semiannual period, as determined by the continuous opacity monitoring system (COMS).
- (g) The monthly maximum and monthly average daily ammonia emission rates in lb/hr and the 12-month rolling ammonia emission total in ton/year, calculated for each month of the semiannual period.
- (h) The monthly maximum and monthly average 3-hour VOC emission rates in lb/hr and the 12-month rolling VOC emission total in ton/year, calculated for each month of the semiannual period.

For Emission Point AH-051, the data obtained from the daily feed sulfur tests and each 7-day rolling average compliance determination for the total sulfur content in the fresh feed. (Ref.: 40 CFR 60.107(b)(3) and (4))

For Emission Point AH-051, the average coke burn-off rate (tons/hour) and hours of operation shall be recorded daily. (Ref.: §60.105(c))

For Emission Point AH-051, the permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the catalyst regenerator; any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative. (Ref.: §60.7(b))

For Emission Point AH-051, the permittee shall maintain a file of all measurements, including continuous monitoring system (CMS), monitoring device, and performance testing measurements; all CMS performance evaluations; all CMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60 in a permanent form suitable for inspection as required in §60.7(f).

REPORTING REQUIREMENTS

The permit shall submit reports of any deviations in accordance with Part III, Condition 3. The permittee shall also submit semiannual reports providing the following information:

- (a) The monthly maximum and monthly average 1-hour CO emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling CO emission total in ton/year, calculated for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.
- (c) The monthly maximum and monthly average 3-hour SO₂ and H₂SO₄ emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling SO₂ and H₂SO₄ emission totals in ton/year, calculated for each month of the semiannual period.
- (d) Sample calculations and a description of the methods used to determine the lb/hr and ton/year emission rates for all pollutants required to be monitored.
- (e) The monthly maximum and monthly average 3-hour PM/PM₁₀ emission rates in lb/hr and the 12-month rolling PM/PM₁₀ emission total in ton/year, calculated for each month of the semiannual period.
- (f) The monthly average 6-minute opacity for each month of the semiannual period, as determined by the continuous opacity monitoring system (COMS).
- (g) The monthly maximum and monthly average daily ammonia emission rates in lb/hr and the 12-month rolling ammonia emission total in ton/year, calculated for each month of the semiannual period.
- (h) The monthly maximum and monthly average 3-hour VOC emission rates in lb/hr and the 12-month rolling VOC emission total in ton/year, calculated for each month of the semiannual period.

The permittee shall submit a semiannual report containing any 7-day period during which the sulfur content of the fresh feed exceeds 0.30 percent by weight. The report shall contain the following information and shall be postmarked by the 30th day following the end of each six-month period: (1) The date the exceedance occurred; (2) An explanation of the exceedance; (3) Whether the exceedance was concurrent with a startup, shutdown, or malfunction of the FCC unit or control system; (4) A description of the corrective action taken; (5) The date and explanation for any 12-hour period a sulfur feed measurement was not obtained. The report submittal shall contain a signed statement

certifying the accuracy and completeness of the information contained in each report.
(Ref.: 40 CFR 60.107(c)(1)(iii), (c)(3), (c)(6), (e), and (f))

For parameters monitored by a continuous monitoring device, the permittee shall report periods of excess emissions semiannually as required in §60.7(c). Periods of excess emissions that shall be determined and reported are defined in §60.105(e).

Part II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning May 24, 2005, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AH-052 (formerly AA-052), the Fluidized-bed Catalytic Cracking Unit (FCCU) 165 MMBtu/hr Process Heater (Reference No. F-1601). The FCCU 165 MMBtu/hr Process Heater is equipped with ultra-low NO_x burners to reduce emissions of nitrogen oxides.

Emission Point AA-052 is subject to and shall comply with the New Source Performance Standards (NSPS) for Petroleum Refineries, as described in 40 CFR Part 60, Subpart J and the NSPS General Provisions, 40 CFR Part 60, Subpart A.

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSIONS LIMITATIONS

Particulate Matter	1.84 lbs/hr (3-hour block average) and 5.38 tons/year (12-month rolling total, determined monthly)
PM ₁₀	1.84 lb/hr (3-hour block average) and 5.38 tons/year (12-month rolling total, determined monthly)
Sulfur Dioxide	10.14 lbs/hr (24-hour block average, determined daily) and 25.60 tons/year (12-month rolling total, determined monthly)
Nitrogen Oxides	9.16 lbs/hr (3-hour rolling average, determined hourly) and 25.00 tons/year (12-month rolling total, determined monthly)
Carbon Monoxide	44.67 lbs/hr (3-hour rolling average, determined hourly) and 48.60 tons/year (12-month rolling total, determined monthly)
Sulfuric Acid	0.16 lbs/hr (24-hour block average, determined daily) and 0.40 tons/year (12-month rolling total, determined monthly)
Opacity	20% (6-minute average), except for one 6-minute period per hour of not more than 27% opacity

FUEL RESTRICTION

Fuels other than natural gas and refinery fuel gas (RFG) are prohibited.

40 CFR PART 60, SUBPART J: NSPS FOR PETROLEUM REFINERIES

Standard for Sulfur Oxides:

The permittee shall not burn any fuel gas containing hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph. (Ref.: §60.104(a)(1))

MONITORING REQUIREMENTS

Sulfur Dioxide/Sulfuric Acid:

The permittee shall install, calibrate, maintain, and operate an instrument for continuously monitoring and recording the concentration (dry basis) of H_2S in fuel gases before being burned in any fuel gas combustion device. The span value for this instrument shall be 425 mg/dscm H_2S . Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned. The H_2S continuous monitoring system shall meet the applicable monitoring requirements of §60.13. The permittee shall use Performance Specification 7 for performance evaluations for the H_2S monitor required by §60.13(c). EPA Test Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations. (Ref.: 40 CFR 60.105(a)(4))

The permittee shall collect weekly fuel samples in an as-fired condition and analyze for total sulfur content.

Particulate Matter/Opacity:

Within 180 days of permit issuance, the permittee shall install a device to continuously monitor the excess oxygen in the stack and shall correlate the excess oxygen to PM/PM_{10} emissions and opacity. The correlation of excess oxygen to PM/PM_{10} and opacity shall be based on the most recent stack test(s) or other test(s) demonstrating compliance with the permit limits.

Nitrogen Oxides and Carbon Monoxide:

The permittee shall install, calibrate, maintain, and operate continuous monitoring systems for monitoring and recording the concentration by volume of NO_x and CO

emissions to the atmosphere. The continuous monitoring systems shall meet the performance specifications required by 40 CFR Part 60, Appendix B, the quality assurance procedures required in 40 CFR Part 60, Appendix F, and the requirements of 40 CFR §60.13. In lieu of the requirements of 40 CFR Part 60, Appendix F §§5.1.1, 5.1.3, and 5.1.4, Chevron may conduct either a Relative Accuracy Audit (RAA) or a Relative Accuracy Test Audit (RATA) on each CEMS at least once every three (3) years. Chevron shall conduct Cylinder Gas Audits (CGA) each calendar quarter during which a RAA or a RATA is not performed.

RECORDKEEPING REQUIREMENTS

The permittee shall record and maintain the following information in accordance with Part III, Condition 1:

Particulate Matter/Opacity:

- (a) The excess oxygen measurements.
- (b) The monthly maximum and monthly average 3-hour PM/PM₁₀ emission rates in lb/hr and the 12-month rolling PM/PM₁₀ emission total in ton/year, calculated for each month of the semiannual period.
- (c) The demonstration of opacity compliance for each month of the semiannual period.
- (d) Sample calculations and a description of the methods used to correlate excess oxygen to PM/PM₁₀ emissions and to the demonstration of opacity compliance.

Sulfur Dioxide:

- (a) The amounts of each fuel combusted during each day, the maximum amount combusted per hour (Mscf/hr), and the amount per year (MMscf/yr) determined on a 12-month rolling average with a new yearly amount calculated at the end of the calendar month.
- (b) The calculated 24-hour average SO₂ emission rate in lb/hr and the 12-month rolling SO₂ emission total in ton/year, calculated for each month of the semiannual period.
- (c) Each operating day the calculated SO₂ emission rate exceeds the SO₂ emission rate established in this permit, the magnitude of the excess emissions, the reason for the excess emissions, and a description of the

corrective action or preventive measures taken. Corrective action may include a requirement for additional stack testing or more frequent monitoring or could trigger the implementation of a corrective action plan.

- (d) Any compliance test reports or quality assurance checks for the H₂S monitoring system.
- (e) Calculations, data, and a description of the method(s) used to determine the SO₂ data and the SO₂ emission rates.

Nitrogen Oxides/Carbon Monoxide:

- (a) The monthly maximum and monthly average 3-hour CO emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling CO emission total in ton/year, calculated for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.

For Emission Point AH-052, the permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the process heater and any periods during which a continuous monitoring system or monitoring device is inoperative. (Ref.: §60.7(b))

For Emission Point AH-052, the permittee shall maintain a file of all measurements, including continuous monitoring system (CMS), monitoring device, and performance testing measurements; all CMS performance evaluations; all CMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60 in a permanent form suitable for inspection as required in §60.7(f). (This requirement also applies to those CMS not required by 40 CFR Part 60, Subpart J.)

REPORTING REQUIREMENTS

The permit shall submit reports of any deviations in accordance with Part III, Condition 3. The permittee shall also submit semiannual reports providing the following information:

Particulate Matter/Opacity:

- (a) The monthly average excess oxygen measurements for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour PM/PM₁₀ emission rates in lb/hr and the 12-month rolling PM/PM₁₀ emission total in ton/year, calculated for each month of the semiannual period.
- (c) The demonstration of opacity compliance for each month of the semiannual period.
- (d) Sample calculations and a description of the methods used to correlate excess oxygen to PM/PM₁₀ emissions and to the demonstration of opacity compliance.

Sulfur Dioxide:

- (a) The design heat capacity of the combustion unit and the total quantity of each fuel combusted during the semiannual reporting period.
- (b) The calculated 24-hour average SO₂ emission rate in lb/hr and the 12-month rolling SO₂ emission total in ton/year, calculated for each month of the semiannual period.
- (c) Calculations, data, and a description of the method(s) used to determine the SO₂ data and the SO₂ emission rates.
- (d) Each operating day the calculated SO₂ emission rate exceeds the SO₂ emission rate established in this permit, the magnitude of the excess emissions, the reason for the excess emissions, and a description of the corrective action or preventive measures taken.

Nitrogen Oxides/Carbon Monoxide:

- (a) The monthly maximum and monthly average 3-hour CO emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling CO emission total in ton/year, calculated for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rates in lb/hr, as determined by the continuous emissions monitoring system (CEMS), and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.

For parameters monitored by a continuous monitoring device, the permittee shall report periods of excess emissions semiannually as required in §60.7(c). Periods of excess emissions that shall be determined and reported are defined in §60.105(e).

Part II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning May 24, 2005, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from the Ethylbenzene Complex, Emission Point AP-124 (formerly AA-124), the Ethylbenzene Reaction Unit (ERU) 37.5 MMBtu/hr Natural Gas-Fired Reactor Feed Heater (Reference No. F-2930). The ERU 37.5 MMBtu/hr Reactor Feed Heater is equipped with ultra-low NO_x burners to reduce emissions of nitrogen oxides.

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSIONS LIMITATIONS

Particulate Matter	0.94 lbs/hr (3-hour block average) and 3.29 tons/year (12-month rolling total, determined monthly)
PM ₁₀	0.94 lb/hr (3-hour block average) and 3.29 tons/year (12-month rolling total, determined monthly)
Sulfur Dioxide	0.10 lb/hr (3-hour block average) and 0.31 tons/year (12-month rolling total, determined monthly)
Nitrogen Oxides	1.73 lbs/hr (3-hour rolling average, determined hourly) and 6.08 tons/year (12-month rolling total, determined monthly)
Carbon Monoxide	2.25 lbs/hr (3-hour rolling average, determined hourly) and 6.57 tons/year (12-month rolling total, determined monthly)
Opacity	40% (6-minute average)

FUEL RESTRICTION

Fuels other than natural gas are prohibited.

MONITORING REQUIREMENTS

Nitrogen Oxides:

Within 180 days of permit issuance, the permittee shall install a device to continuously monitor the combustion temperature and flue gas oxygen content and shall establish operating ranges for these parameters indicative of compliance with the NO_x limits

established in the permit. The operating ranges shall be established based on the most recent stack test or other test for NO_x which demonstrates compliance with the permit limits.

Carbon Monoxide:

The permittee shall install, calibrate, maintain, and operate an instrument for continuous measurement of the concentration by volume of CO emissions to the atmosphere. The monitoring device shall be calibrated in accordance with the manufacturer's instructions.

Sulfur Dioxide:

The permittee shall determine the sulfur content of the natural gas on a monthly basis and shall monitor the amount of natural gas combusted each hour.

RECORDKEEPING REQUIREMENTS

The permittee shall record and maintain the following information in accordance with Part III, Condition 1:

Nitrogen Oxides:

- (a) The monthly maximum and monthly average 3-hour combustion temperature and flue gas oxygen content for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rate in lb/hr and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.
- (c) Sample calculations and a description of the methods used to determine the operating ranges and the NO_x emission rates.

Carbon Monoxide:

- (a) The monthly maximum and monthly average 3-hour CO concentration measured as ppmv.
- (b) The monthly maximum and monthly average 3-hour CO emission rate in lb/hr and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.

Sulfur Dioxide:

- (a) The monthly maximum and monthly average amount of natural gas combusted every three hours and the total amount combusted during each month of the semiannual period.
- (b) The monthly results of the sulfur analysis of the natural gas.
- (c) The monthly maximum and monthly average 3-hour SO₂ emission rates in lb/hr and the 12-month rolling SO₂ emission total in ton/year, calculated for each month of the semiannual period.
- (d) Sample calculations of the method used to determine the SO₂ emission rates.

For Emission Point AP-124, the permittee shall maintain records of any periods during which a continuous monitoring system or monitoring device is inoperative. The permittee shall also maintain a file of all continuous monitoring system (CMS) or monitoring device measurements and all CMS or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices.

REPORTING REQUIREMENTS

The permit shall submit reports of any deviations in accordance with Part III, Condition 3. The permittee shall also submit semiannual reports providing the following information:

Nitrogen Oxides:

- (a) The monthly maximum and monthly average 3-hour combustion temperature and flue gas oxygen content for each month of the semiannual period.
- (b) The monthly maximum and monthly average 3-hour NO_x emission rate in lb/hr and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.
- (c) Sample calculations and a description of the methods used to determine the operating ranges and the NO_x emission rates.

Carbon Monoxide:

- (a) The monthly maximum and monthly average 3-hour CO concentration measured as ppmv.

- (b) The monthly maximum and monthly average 3-hour CO emission rate in lb/hr and the 12-month rolling NO_x emission total in ton/year, calculated for each month of the semiannual period.

Sulfur Dioxide:

- (a) The monthly maximum and monthly average amount of natural gas combusted every three hours and the total amount combusted during each month of the semiannual period.
- (b) The monthly results of the sulfur content of the natural gas.
- (c) The monthly maximum and monthly average 3-hour SO₂ emission rates in lb/hr and the 12-month rolling SO₂ emission total in ton/year, calculated for each month of the semiannual period.
- (d) Sample calculations of the method used to determine the SO₂ emission rates.

Part III OTHER REQUIREMENTS

Records:

- (1) The permittee shall maintain on-site records of all required monitoring data and support information required by this permit for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. These records shall be made available for review upon request from DEQ personnel.

Notification:

- (2) For Emission Point AH-051, the permittee shall provide written notification of completion of all physical or operational changes to the specified emission point. For Emission Points AH-052 and AP-124, the permittee shall provide written notification of the completion of all physical and/or operational changes to other units affecting the firing rate of these process heaters. The notification shall include the date of completion of the change(s), a precise description of the change(s), the date of startup or operation under the change(s), and the date that the maximum production rate at which the unit will be operated is reached. Notification of these dates shall be provided no later than ten (10) days after the actual date is determined.

Reporting Deviations:

- (3) The permittee shall report any deviations from the permit requirements, including deviations attributable to upsets, within two (2) working days of such deviation. The report shall also include the cause of the deviation(s) and any corrective action(s) or preventive measure(s) taken. A copy of the report shall be maintained in accordance with Part III, Condition 1.

Federal NSPS Standards (40 CFR Part 60):

- (4) For Emission Points AH-051 and AH-052, the permittee is subject to and shall comply with the New Source Performance Standards (NSPS) for Petroleum Refineries (40 CFR Part 60, Subpart J) and the NSPS General Provisions (40 CFR Part 60, Subpart A).
- (5) The facility is subject to and shall comply with the New Source Performance Standards (NSPS) for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (40 CFR Part 60, Subpart VV), and the NSPS General Provisions (40 CFR Part 60, Subpart A).
 - (a) The provisions of this subpart apply to affected facilities in the synthetic organic chemicals manufacturing industry that commences construction or modification after January 5, 1981. Addition or replacement of equipment for the purpose of process improvement which is accomplished without a

capital expenditure shall not by itself be considered a modification under this subpart.

- (b) If an owner or operator applies for one or more of the exemptions in §60.480(d), then the owner or operator shall maintain records as required in §60.486(i).
- (6) The facility is subject to and shall comply with the New Source Performance Standards (NSPS) for Equipment Leaks of VOC in Petroleum Refineries (40 CFR Part 60, Subpart GGG), and the NSPS General Provisions (40 CFR Part 60, Subpart A).
 - (a) The provisions of this subpart apply to affected facilities in petroleum refineries that commence construction or modification after January 4, 1983. Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this subpart.
 - (b) Facilities subject to subpart VV or subpart KKK of 40 CFR Part 60 are excluded from this subpart.
- (7) The facility is subject to and shall comply with the New Source Performance Standards (NSPS) for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (40 CFR Part 60, Subpart NNN), and the NSPS General Provisions (40 CFR Part 60, Subpart A).
 - (a) The provisions of this subpart apply to each affected facility designated in §60.660(b) (paragraph (b) below) that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, except as provided in §60.660(c).
 - (b) The affected facility is any of the following for which construction, modification, or reconstruction commenced after December 30, 1983:
 - (1) Each distillation unit not discharging its vent stream into a recovery system.
 - (2) Each combination of a distillation unit and the recovery system into which its vent stream is discharged.
 - (3) Each combination of two or more distillation units and the common recovery system into which their vent streams are discharged.

- (8) The facility is subject to and shall comply with the New Source Performance Standards (NSPS) for VOC Emissions from Petroleum Refinery Wastewater Systems (40 CFR Part 60, Subpart QQQ), and the NSPS General Provisions (40 CFR Part 60, Subpart A).
- (a) The provisions of this subpart apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction is commenced after May 4, 1987. An individual drain system, oil-water separator, or aggregate facility are all considered affected facilities.
- (b) Notwithstanding the provisions of 40 CFR 60.14(e)(2), the construction or installation of a new individual drain system shall constitute a modification to an affected facility described in §60.690(a)(4). A new individual drain system shall be limited to all process drains and the first common junction box.

Federal NESHAP Standards (40 CFR Part 61 and 63):

- (9) The facility is subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) as described in 40 CFR Part 61, Subpart FF – National Emission Standard for Benzene Waste Operations.
- (a) The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.
- (b) The provisions of this subpart apply to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in §61.340(a). The waste streams at hazardous waste treatment, storage, and disposal facilities subject to the provisions of this subpart are the benzene-containing hazardous waste from any facility listed in §61.340(a).
- (c) At each facility identified in §61.340(a) or (b), the following waste is exempt from the requirements of this subpart:
- (1) Waste in the form of gases or vapors that is emitted from process fluids; and
- (2) Waste that is contained in a segregated storm water sewer system.
- (d) At each facility identified in §61.340(a) or (b), any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in §61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is

required under this subpart for any gaseous stream from a waste management unit, treatment process, or wastewater treatment unit routed to a fuel gas system.

- (10) The facility is subject to and shall comply with the National Emission Standards for Organic Hazardous Air Pollutants (NESHAP) from the Synthetic Organic Chemical Manufacturing Industry, including 40 CFR Part 63, Subparts F, G, and H, and 40 CFR Part 63, Subpart A – General Provisions.
- (11) The facility is subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories as described in 40 CFR Part 63, Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries, and 40 CFR Part 63, Subpart A – General Provisions.
 - (a) This subpart applies to petroleum refining process units and to related emission points that are specified in §63.640(c)(5) through (c)(7) that are located at a plant site that meets the criteria in §63.640(a)(1) through (a)(2).
 - (b) For the purpose of this subpart, the affected source shall comprise all emission points, in combination, listed in §63.640(c)(1) through (c)(7) of this section that are located at a single refinery.
 - (c) The affected source subject to this subpart does not include the emission points listed in paragraphs (d)(1) through (d)(5).

Where applicable, the facility shall comply with the specific requirements of 40 CFR Part 63, Subpart G (National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) for Process Vents, Storage Vessels, Transfer Operations, and Wastewater); 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks); and 40 CFR Part 63, Subpart Y (National Emission Standards for Marine Tank Vessel Loading Operations).

- (12) The facility is subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories as described in 40 CFR Part 63, Subpart UUU – NESHAP for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units; and 40 CFR Part 63, Subpart A – General Provisions. The permittee shall comply with the applicable requirements of the subpart by the dates specified in §63.1563.
 - (a) This subpart applies to the following new, reconstructed, or existing affected source(s) at a petroleum refinery:

- (1) Each catalytic cracking unit that regenerates catalyst.
 - (2) Each catalytic reforming unit that regenerates catalyst.
 - (3) Each sulfur recovery unit and the tail gas treatment unit serving it.
 - (4) Each bypass line serving a new, existing, or reconstructed catalytic cracking unit, catalytic reforming unit, or sulfur recovery unit.
- (b) This subpart does not apply to those units listed in §63.1562(f)(1)-(5).