

TCEQ INTERAGENCY TRANSMITTAL MEMO

DATE: 9/3/08

TO: LaDonna Castañuela  
Chief Clerk  
Building F, MC105

FROM: Erin Selvera  
Environmental Law Division  
Building A, MC 173

Attached: Agenda Backup Documents

Agenda Date: September 24, 2008  
Applicant: Flint Hills Resources, LP  
Proposed Permit No.: 8803A and PSD-TX-413M8  
Program: Air  
TCEQ Docket No.: 2008-0293-AIR

Documents with this transmittal are indicated below:

- Final Draft Permit, including any special provisions or conditions
- Maximum Allowable Emission Rate Table (MAERT)
- The summary of the technical review of the permit application.
- The compliance summary of the applicant.
- Modeling Audit Report

CHIEF CLERKS OFFICE

2008 SEP -3 PM 4:14

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ON ENVIRONMENTAL  
QUALITY

## SPECIAL CONDITIONS

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### GENERAL PROCESS REQUIREMENTS

1. The total emissions of air contaminants from the combined sources shall not exceed the values on the attached table entitled "Emission Sources - Maximum Allowable Emission Rate Caps." The sources authorized by this permit are listed on the tables entitled "Emission Sources Table" and "Emission Sources - Maximum Allowable Emission Rate Caps." (10/01)
2. The nitrogen oxides (NO<sub>x</sub>) emissions in the stack gases from the following emission point numbers (EPNs) shall not exceed the lb/MMBtu values listed below. The averaging period shall be hourly, unless otherwise specified.: (10/08)

<u>EPN</u>	<u>FIN</u>	<u>Description</u>	<u>Maximum Heat Specific EF (lb/MMBtu, LHV)</u>
A-103	40BA101/ 40BA401	West Crude Heaters	0.045 (HHV)
A-203	42BA1	Crude Heater	0.07
A-204	42BA3	Vacuum Heater	0.08
AA-18	02BA201	FCCU VRU Debutanizer Reboiler	0.045 (HHV)
D-3	04BA4	Cumene Hot Oil Heater	0.08
JJ-2	39BA3902-5	Continuous Catalyst Regeneration (CCR) Charge Heaters	0.045 (HHV)
JJ-4	39BA3900	Naphtha Hydrotreating (NHT) Charge Heater	0.08
JJ-4	39BA3901	CCR Hot Oil Heater	0.045 (HHV)
JJ-6	39BA3906	XCR Reboiler	0.045 (HHV)

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<u>EPN</u>	<u>FIN</u>	<u>Description</u>	<u>Max. Heat Specific EF (lb/MMBtu, LHV)</u>
KK-3	37BA1	Distillate Hydrotreater (DHT) Charge Heater	0.06
KK-3	37BA2	DHT Stripper Reboiler	0.06
M-5A	20BA2001	No.1 OX Recycle Column Reboiler	0.045 (HHV)
M-5B	20BA2002	No. 2 OX Recycle Column Reboiler	0.045 (HHV)
M-5D	20BA2004	OX Crystallizer Reboiler	0.045 (HHV)
MX-1	MX-1	MX Unit Hot Oil Heater	0.07
LSGHTR	LSGHTR	LSG Hot Oil Heater	0.045 (HHV)
N3	61BA1201 and 61BA1202	No. 1 Parex Hot Oil (Raffinate) Heater and No. 1 Parex Hot Oil (Extract) Heater	0.045 (HHV)
N-103	31BA1	Parex No.2 Hot Oil Heater	0.045 (HHV)
N-104	33BA1 and 33BA2	MSTD P Reactor Heater and Reboiler	0.045 (HHV)
O-10	25BA2501	No.3 Isom Charge Heater	0.075 (HHV)
R-201	43BF1	Crude Boiler	0.08
R-7	06BF657	Boiler No. 7	0.025* (HHV)
R-8	06BF658	Boiler No. 8	0.025* (HHV)
R-9	06BF659	Boiler No. 9	0.025* (HHV)
II-7	26BA2603	Hydrocracker Deethanizer Reboiler Heater	0.045 (HHV)

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<u>EPN</u>	<u>FIN</u>	<u>Description</u>	<u>Max. Heat Specific EF (lb/MMBtu, LHV)</u>
II-7	26BA2604	Hydrocracker Stabilizer Reboiler Heater	0.045 (HHV)
II-7	26BA2605	Hydrocracker Naphtha Splitter Reboiler Heater	0.045 (HHV)
II-7	26BA2606	Hydrocracker Recycle Splitter Reboiler Heater	0.045 (HHV)
DDS- HTRSTK	DDS- CHGHTR	DDS Charge Heater	0.045 (HHV)
DDS- HTRSTK	DDS- FRACBLR	DDS Fractionator Reboiler	0.045 (HHV)

Note:

- FIN - Facility Identification Number
- LHV - Low Heating Value
- HHV - Higher Heating Value
- EF - Emission Factor
- \* - Averaging period for Boiler 7, 8, and 9 shall be based upon a 24-hour rolling period.

3. There shall be no visible emissions for periods exceeding five minutes over any two-hour period from EPNs H15-A, H15-B, H15-C, DDS-HTRSTK, KK-3, JJ-2, JJ-4, JJ-6, A-203, A-204, R-201, M-4, M-5A, M-5B, M-5C, M-5D, N-3, N-103, N-104, O-3, O-10, and MX-1. The opacity limitation shall be determined by using the procedures specified in Title 40 Code of Federal Regulations § 60.11(b) [40 CFR § 60.11(b)] upon request of the Texas Commission on Environmental Quality (TCEQ) Executive Director or TCEQ representatives.  
**(7/08)**

4. Except as provided for in the special conditions of this permit, the fuel for any heater, boiler, turbine, flare pilot, or flare sweep is limited to either natural gas, refinery fuel gas, or a combination of natural gas and refinery fuel gas. For all fired sources the hydrogen sulfide (H<sub>2</sub>S) content shall not exceed 0.1 grain (gr)/dry standard cubic feet (dscf) on a rolling three-hour average.

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Upon request by the Executive Director of the TCEQ or the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any local air pollution control agency having jurisdiction, the holder of this permit shall provide a sample and/or analysis of the fuel utilized or shall allow air pollution control agency representatives to obtain a sample for analysis.

For the following combustion sources, the H<sub>2</sub>S content shall not exceed 0.1 gr H<sub>2</sub>S/dscf on a rolling three-hour average nor exceed 0.06 gr H<sub>2</sub>S/dscf on a yearly basis.

<u>EPN</u>	<u>FIN</u>	<u>Description</u>
A-203	42BA1	Crude Heater
LSGHTR	LSGHTR	LSG Hot Oil Heater
MX-1	MX-1	MX Unit Hot Oil Heater
KK-3	37BA1	DHT Charge Heater
KK-3	37BA2	DHT Stripper Reboiler
JJ-2	39BA3902-5	CCR Platformer Charge Heater
JJ-6	39BA3906	XCR Reboiler
JJ-4	39BA3900	NHT Charge Heater
JJ-4	39BA3901	CCR Hot Oil Heater

For the following combustion sources, H<sub>2</sub>S content of the fuel gas shall not exceed 0.1 gr H<sub>2</sub>S/dscf on a rolling three-hour average basis nor exceed 0.037 gr H<sub>2</sub>S/dscf on a yearly basis.

<u>EPN</u>	<u>FIN</u>	<u>Description</u>
DDS-HTRSTK	DDS-CHGHTR	DDS Charge Heater
DDS-HTRSTK	DDS-FRACBLR	DDS Fractionator Reboiler

The H<sub>2</sub>S concentration shall be monitored and recorded in accordance with the applicable requirements of New Source Performance Standards (NSPS), Subpart J. (7/08)

5. Particulate matter (PM) less than 10 microns in diameter emissions shall not exceed 0.0035 pound (lb)/MMBtu averaged on a daily basis at the maximum fired capacity from the Crude Heater (EPN A-203) and 0.005 lb/MMBtu averaged on a daily basis at the maximum fired capacity from the Vacuum Heater (EPN A-204) and the Boiler (EPN R-201). The PM emissions from the MSTDP Reboiler or MSTDP Reactor Heater (EPN-104) shall not exceed 0.01 lb/MMBtu when firing high Btu unit off-gas and 0.005 lb/MMBtu when firing refinery fuel gas.

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6. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing volatile organic compounds (VOC) at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the maximum allowable emission rates table (MAERT). Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions. Each thermal incinerator shall operate with no less than 99.9 percent efficiency.

Safety relief valves (SRVs) that discharge to the atmosphere only as a result of fire or failure of utilities are exempt from this special condition, provided each valve is equipped with a rupture disc upstream or downstream. A pressure gauge or pressure sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown. In addition, the following valves are exempt from this special condition: (6/03)

<u>SRV</u>	<u>Minimum Set Pressure</u> <u>Pound per square inch, absolute (psia)</u>	<u>Operating Pressure</u> <u>(psia)</u>
42PSV-60A through H	44	20
42PSV-89		441
All Ethane Refrigeration System PRVs	190	135
Coker Drum PRV 1	70	30
PRV 2	70	30
Pressure Tank PRVs:		
Butane Tanks	75	35
Propane Tanks	250	180
C5 Tanks	25-30	15

(8/05)

7. Analyzer vent waste gas streams listed in the confidential attachment submitted January 29, 1999, are included in the VOC emission cap as EPN EXANVENTS. (6/03)

## COKER UNIT PROCESS REQUIREMENTS

8. No more than one front end-loader shall be used to load trucks and no more than one front-end loader shall be used to transfer coke from the dewatering area.

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- 9. The coke stockpile shall be maintained at a height no greater than the height of the coke retaining structure.

COOLING TOWER PROCESS REQUIREMENTS

- 10. Cooling water towers shall be monitored in accordance with the provisions of Paragraph 69(b) of the Consent Decree between EPA and Flint Hills Resources, L.P., (U.S. et al. V. Koch Petroleum Group, L.P., Civil Action No. 00-2756 (PAM/SRN), U.S. District Court for District of Minnesota, April 25, 2001) as amended, as it pertains to the Corpus Christi West Refinery. Confirmed leaks shall be repaired and corrections shall be confirmed within the timelines prescribed in Paragraph 69(b) of said Consent Decree. The results of the monitoring and maintenance efforts shall be recorded, and such records shall be maintained for a period of five years. The records shall be made available to the TCEQ Executive Director upon request.

The following cooling towers are subject to this monitoring condition:

<u>EPN</u>	<u>Name</u>
F-S-8	CCR Cooling Tower
F-S-201	Mid-Plant Cooling Tower
F-S-1	Main Cooling Tower
F-S-2	Ultraformer Cooling Tower
F-S-4	Rex Cooling Tower
F-S-5	No. 3 Paraxylene Cooling Tower
F-S-6	Styrene Cooling Tower
F-S-7	East Crude Cooling Tower
F-S-101	West Crude Cooling Tower
F-S-9	DDS Cooling Tower
F-S-10	Sulfur Plant Cooling Tower

Four months prior to the completion of the consent decree requirements, if the permit holder is no longer required by EPA to comply with Paragraph 69(b), the permit holder shall apply for a permit alteration or an amendment to revise this cooling tower condition. (10/08)

FLUID CATALYTIC CRACKING UNIT (FCCU) PROCESS REQUIREMENTS

- 11. The opacity of emissions from the FCCU scrubber stack shall not exceed 15 percent averaged over a six-minute period. Compliance with the opacity standard shall be based on the records

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kept in accordance with Special Condition No. 55 of this permit.

- 12. The fuel for the FCCU carbon monoxide (CO) boiler is limited to either natural gas, refinery fuel gas, FCCU regenerator off-gas, or combinations of any of the three. The H<sub>2</sub>S content of the refinery fuel gas or natural gas stream shall not exceed 0.1 gr/dscf on a rolling three-hour average.
- 13. The maximum allowable concentrations of the following pollutants in the scrubber stack are given below: **(2/02)**

	<u>Hourly (averaged over a one-hour period)</u>
CO	500 parts per million by volume (ppmv)
NO <sub>x</sub>	550 ppmv
Sulfur dioxide (SO <sub>2</sub> )	250 ppmv

The CO concentration shall be measured on parts per million by volume, dry (ppmvd). The NO<sub>x</sub> and SO<sub>2</sub> concentrations shall be measured on a ppmvd air-free basis.

	<u>Annual (averaged over a rolling 365-day period)</u>
SO <sub>2</sub>	25 ppmv
NO <sub>x</sub>	100 ppmv

- 14. Emissions from the scrubber stack shall not exceed 1.0 lb of PM per 1,000 lbs of coke burn-off averaged over a one-hour period.

FLARE PROCESS REQUIREMENTS

- 15. Flares shall be designed and operated in accordance with 40 CFR § 60.18, including specifications of minimum heating value of the waste gas, maximum tip velocity, and pilot flame monitoring. If necessary to insure adequate combustion, sufficient fuel gas shall be added to make the gases combustible. An infrared monitor is considered equivalent to a thermocouple for flame monitoring purposes.
- 16. The flares shall be operated with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours.
- 17. Flares shall be equipped with a continuous burning pilot and automatic reignition system that assures flare ignition and provides immediate notification of appropriate supervisory personnel when the ignition system ceases to function properly.

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FUGITIVE MONITORING REQUIREMENTS

18. Piping, Valves, Connectors, Pumps, and Compressors in VOC Service - 28VHP

These conditions represent the minimum LDAR requirements for the LSG Treating Unit, DHT, Hydrocracker Unit, Saturates Gas Plant No. 2, NHT/CCR Platformer Unit, FCCU, Gasoline Blending Facility, Cumene Unit, No. 3 Paraxylene Unit, Orthofraction Unit, Delayed Coker, MSTDP Unit, No. 1 Parex Unit, No. 2 Parex Unit, No. 1 MX Unit, No. 3 Isom Unit, Ortho Fractionation No. 2 Unit, AEU Unit, MVRU Unit, No. 2 Terminal Tank Farm, Hydrodesulfurization Unit, Diesel/Fuel Oil Blending, Jet A Fuel Blending, Crude Unit No. 4, Saturate Gas Plant No.1, West Crude Unit, Gasoline Blending Facility Tank Components, Hydrogen Fluoride (HF) Alkylation, PENEX, PENEX Desulfurization, Polymethyl Biphenyl, Ultraformer, Diesel Desulfurization Unit, Fuel Gas System and Wastewater Treatment Units.

- A. These conditions shall not apply (1) where the VOC has an aggregate partial pressure or vapor pressure of less than 0.044 pounds per square inch, absolute (psia) at 68 °F or (2) operating pressure is at least 5 kilopascals (0.725 psi) below ambient pressure. Equipment excluded from this condition shall be identified in a list or by one of the methods described below to be made readily available upon request.

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

- i. piping and instrumentation diagram (PID); or
  - ii. a written or electronic database or electronic file.
- B. Construction of new and reworked piping, valves, pump systems, and compressor systems shall conform to applicable American National Standards Institute (ANSI), American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), or equivalent codes.
- C. New and reworked underground process pipelines shall contain no buried valves such that fugitive emission monitoring is rendered impractical. New and reworked buried connectors shall be welded.
- D. To the extent that good engineering practice will permit, new and reworked valves and piping connections shall be so located to be reasonably accessible for leak-checking during plant operation. Difficult-to-monitor and unsafe-to-monitor valves, as defined

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by Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115), shall be identified in a list to be made readily available upon request. The difficult-to-monitor and unsafe-to-monitor valves may be identified by one or more of the methods described in subparagraph A above. If an unsafe-to-monitor component is not considered safe to monitor within a calendar year, then it shall be monitored as soon as possible during safe-to-monitor times. A difficult-to-monitor component for which quarterly monitoring is specified may instead be monitored annually.

- E. New and reworked piping connections shall be welded or flanged. Screwed connections are permissible only on piping smaller than two-inch diameter. Gas or hydraulic testing of the new and reworked piping connections at no less than operating pressure shall be performed prior to returning the components to service or they shall be monitored for leaks using an approved gas analyzer within 15 days of the components being returned to service. Adjustments shall be made as necessary to obtain leak-free performance. Connectors shall be inspected by visual, audible, and/or olfactory means at least weekly by operating personnel walk-through. Any leaks discovered through AVO inspection shall be tagged and/or replaced or repaired.

Each open-ended valve or line shall be equipped with an appropriately sized cap, blind flange, plug, or a second valve to seal the line. Except during sampling, both valves shall be closed. If the removal of a component for repair or replacement results in an open-ended line or valve, it is exempt from the requirement to install a cap, blind flange, plug, or second valve for 72 hours. If the repair or replacement is not completed within 72 hours, the line or valve must have a cap, blind flange, plug, or second valve installed or the open-ended valve or line shall be monitored for leaks above 500 ppmv daily.

- F. Accessible valves shall be monitored by leak-checking for fugitive emissions at least quarterly using an approved gas analyzer. Sealless/leakless valves (including, but not limited to, welded bonnet bellows and diaphragm valves) and relief valves equipped with a rupture disc upstream or venting to a control device are not required to be monitored. For valves equipped with rupture discs, a pressure-sensing device shall be installed between the relief valve and rupture disc to monitor disc integrity. All leaking discs shall be replaced at the earliest opportunity but no later than the next process shutdown.

A check of the reading of the pressure-sensing device to verify disc integrity shall be performed weekly and recorded in the unit log or equivalent. Pressure-sensing devices that are continuously monitored with alarms are exempt from recordkeeping requirements specified in this paragraph.

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The gas analyzer shall conform to requirements listed in Method 21 of 40 CFR Part 60, Appendix A. The gas analyzer shall be calibrated with methane. In addition, the response factor of the instrument for a specific VOC of interest shall be determined and meet the requirements of Section 8 of Method 21. If a mixture of VOCs are being monitored, the response factor shall be calculated for the average composition of the process fluid. A calculated average is not required when all of the compounds in the mixture have a response factor less than 10 using methane. If a response factor less than 10 can not be achieved using methane, then the instrument may be calibrated with one of the VOC to be measured or any other VOC so long as the instrument has a response factor of less than 10 for each of the VOC to be measured..

Replacements for leaking components shall be re-monitored within 15 days of being placed back into VOC service.

- G. Except as may be provided for in the special conditions of this permit, all pump and compressor seals shall be monitored with an approved gas analyzer at least quarterly or be equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Seal systems designed and operated to prevent emissions or seals equipped with an automatic seal failure detection and alarm system need not be monitored. 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 kept in good working order, or seals equipped with an automatic seal failure detection and alarm system. Submerged pumps or sealless pumps (including, but not limited to, diaphragm, canned, or magnetic-driven pumps) may be used to satisfy the requirements of this condition and need not be monitored.
- H. Damaged or leaking valves or connectors found to be emitting VOC in excess of 500 parts per million ( ppmv) or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. Damaged or leaking pump, compressor and agitator seals found to be emitting VOC in excess of 2,000 ppmv or found by visual inspection to be leaking (e.g., dripping process fluids) shall be tagged and replaced or repaired. A first attempt to repair the leak must be made within 5 days. Records of the first attempt to repair shall be maintained.
- I. Every reasonable effort shall be made to repair a leaking component, as specified in this paragraph, within 15 days after the leak is found. If the repair of a component would require a unit shutdown that would create more emissions than the repair would eliminate, the repair may be delayed until the next scheduled shutdown. All leaking components which cannot be repaired until a scheduled shutdown shall be identified for such repair by tagging within 15 days of the detection of the leak. A listing of all components that qualify for delay of repair shall be maintained on a delay of repair list.

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

- J. Records of repairs shall include date of repairs, repair results, justification for delay of repairs, and corrective actions taken for all components. Records of instrument monitoring shall indicate dates and times, test methods, and instrument readings. Records of physical inspections shall be noted in the operator's log or equivalent.
- K. Alternative monitoring frequency schedules of 30 TAC §§ 115.352-115.359 or National Emission Standards for Organic Hazardous Air Pollutants, 40 CFR Part 63, Subpart H, may be used in lieu of Items F through G of this condition.
- L. Compliance with the requirements of this condition does not assure compliance with requirements of 30 TAC Chapter 115, an applicable New Source Performance Standard (NSPS), or an applicable National Emission Standard for Hazardous Air Pollutants (NESHAPS) and does not constitute approval of alternative standards for these regulations.

For purposes of establishing the final ER caps for this flexible permit, implementation of the 28 VHP LDAR program and the appropriate reduction credits were utilized. If any other LDAR program is used for a set of components subject to this permit, the fugitive emissions for all components shall be calculated using the appropriate reduction credits for the LDAR program actually used to monitor each component. For components monitored under an LDAR program other than 28 VHP, the net ERs from these components must be equivalent or less than those obtained if 28 VHP were in place.

The holder of this permit shall maintain a record of each LDAR program utilized, and the unit to which that program is applied. This information shall be made available to representatives of the TCEQ upon request. **(10/08)**

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19. In addition to the weekly physical inspection required by Item E of Special Condition No. 18, all connectors in gas or vapor and light liquid service in the Cumene Unit shall be monitored annually with an approved gas analyzer in accordance with Items F through J of Special Condition No. 18. Alternative monitoring frequency schedules of 40 CFR Part 63, Subpart H, National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, may be used in lieu of the monitoring frequency required by this permit condition. Compliance with this condition does not assure compliance with requirements of applicable state or federal regulations and does not constitute approval of alternative standards for these regulations.
20. Instead of the leak definition of 2,000 ppmv specified in Special Condition No. 18H for pump and compressor seals in the Saturates Gas Plant No. 2, NHT/CCR Platformer Unit, Delayed Coker, Crude Unit No. 4, No. 2 Parex Unit, and FCCU, the permit holder shall use a leak definition of 500 ppmv for pumps and compressor seals in these areas.
21. Pumps and compressors in benzene service in the Cumene Unit shall be equipped with a shaft sealing system that prevents VOC emissions. For the purposes of this special condition, "in benzene service" means a piece of equipment that either contains or contacts a liquid or gas that is at least 10 percent benzene by weight.

## HF ALKYLATION UNIT PROCESS REQUIREMENTS

22. The alkaline scrubber described in the permit application shall provide 99 percent removal of the HF being routed to the emergency flare. Non-fugitive emissions from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration of greater than 1 percent are not authorized by this permit unless authorized on the MAERT. Any releases directly to atmosphere from relief valves, safety valves, or rupture discs of gases containing VOC at a concentration greater than 1 weight percent are not consistent with good practice for minimizing emissions. (6/03)
23. In the event of a HF release, the holder of this permit shall implement the procedures outlined in the emergency contingency plan.
24. There shall be no overhead work in the process unit where equipment is lifted over unprotected vessels or lines containing more than 5 percent HF by weight except when such lifts cannot otherwise be avoided. In this event, appropriate management approval and preparation of a written rigging plan shall be obtained prior to conducting the work.

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The holder of this permit is required to notify the TCEQ Corpus Christi Regional Office no less than eight hours prior to conducting work over unprotected vessels or lines containing more than 5 percent by weight HF.

### 25. Piping, Valves, Pumps, and Compressors in HF Service

- A. Audio, olfactory, and visual checks for HF leaks within the operating area shall be made once per shift.
- B. Immediately, but no later than one-hour upon detection of a leak, plant personnel shall make one or more of the following attempts:
  - (1) Isolate the leak.
  - (2) Commence repair or replacement of the leaking component.
  - (3) Use a leak collection or containment system to prevent the leak until repair or replacement can be made.

Records shall be maintained at the plant site of all repairs and replacements made. These records shall be made available to representatives of the TCEQ upon request.

- 26. The HF detection paint shall be used on all potential fugitive sources and possible leak sites. Operators shall inspect those sources and sites daily. If leaks are detected, they shall be repaired immediately.

### LOADING PROCESS REQUIREMENTS

- 27. Xylene (m-, o-, and p- isomers or mixtures thereof) may be loaded without controls across the docks for shipment under the following conditions:
  - A. Only ships without the necessary control equipment and Coast Guard certification shall be loaded uncontrolled.
  - B. Only one ship may be loaded uncontrolled at a time.
  - C. The uncontrolled loading rate shall not exceed 7,000 barrels per hour (bbl/hr) nor the annual average rate of 100,000 bbl per month. (7/07)

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28. The Marine Vapor Combustor (EPN VCS-1) shall be designed and operated to meet a minimum VOC destruction efficiency of 98 weight percent.

Toluene barge loading emissions shall be collected and routed to a vapor combustion unit with a destruction efficiency of at least 98 percent.

## STORAGE TANK PROCESS REQUIREMENTS

### 29. Storage and Loading of VOC

- A. The control requirements specified in paragraphs B through E of this condition shall not apply (1) where the VOC has an aggregate partial pressure of less than 0.5 psia at the maximum expected operating temperature or (2) to storage tanks smaller than 25,000 gallons.
- B. An internal floating deck or roof or equivalent control shall be installed in all tanks. The floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof (IFR): (1) a liquid-mounted seal, (2) two continuous seals mounted one above the other, or (3) a mechanical shoe seal. Installation of equivalent control requires prior review and approval by the TCEQ Executive Director.
- C. An open-top tank containing a floating roof (external floating roof tank) which uses double seal or secondary seal technology shall be an approved control alternative to an IFR tank provided the primary seal consists of either a mechanical shoe seal or a liquid-mounted seal, and the secondary seal is rim-mounted. A weathershield is not approvable as a secondary seal unless specifically reviewed and determined to be vapor-tight.
- D. For any tank equipped with a floating roof, the holder of this permit shall follow 40 CFR § 60.113b, Testing and Procedures, to verify seal integrity. Additionally, the permit holder shall follow 40 CFR § 60.115b, Reporting and Recordkeeping Requirements, to provide records of the dates seals were inspected, seal integrity, and corrective actions taken.
- E. The floating roof design shall incorporate sufficient flotation to conform to the requirements of API Code 650, or an equivalent degree of flotation, except that an internal floating cover need not be designed to meet rainfall support requirements and the materials of construction may be steel or other materials.

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- F. Uninsulated tank exterior surfaces exposed to the sun shall be white or aluminum.
- G. For purposes of assuring compliance with VOC emission limitations, the holder of this permit shall maintain records which describe all storage tanks and loading operations. The records shall include tank or loading point identification number, control method used, tank or vessel capacity in gallons, name of the material stored or loaded, VOC molecular weight, VOC monthly average temperature in degrees Fahrenheit, VOC vapor pressure at the monthly average material temperature in psia, and VOC throughput for the previous month and year-to-date. Records of VOC monthly average temperature are not required to be kept for unheated tanks which receive liquids that are at or below ambient temperatures. These records shall be maintained at the plant site for at least five years and be made available to representatives of the TCEQ upon request.
- H. Emissions for tanks and loading operations shall be calculated using: (a) AP-42, 5th Edition, "Compilation of Air Pollution Emission Factors, Chapter 7 - Storage of Organic Liquids" (dated February 1996) and (b) the TCEQ publication titled "Technical Guidance Package for Chemical Sources - Storage Tanks" (dated February 1995).
- I. Operation without visible liquid leaks or spills shall be maintained at all loading and unloading facilities, regardless of vapor pressure. This does not apply to momentary dripping associated with the initial connection or disconnection of fittings. Sustained dripping from fittings during loading and unloading operations is not permitted.
- J. Existing non-NSPS Kb floating roof storage vessels which are subject to the requirements of Special Condition No. 29D and existing tanks subject to Special Condition No. 29F shall be in compliance at the first degassing and cleaning activity after the issuance of the flexible permit or by August 18, 2008, whichever comes first.
- K. For purposes of establishing the final ER caps for this flexible permit, implementation of the control options in this condition were utilized. However, other seal configurations or control options other than those listed in paragraphs B and C of this condition may be utilized for a tank as long as actual emissions are calculated using the actual seal configurations or control options used and total emissions do not exceed the emission caps.

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The holder of this permit shall maintain a record of each tank seal configuration or control option. This information shall be made available to representatives of the TCEQ upon request.

SULFUR RECOVERY UNIT (SRU) PROCESS REQUIREMENTS

30. The hourly average emission concentration in the exhaust gas of the SRUs No. 1 Tail Gas Incinerator (TGI) (EPN H-15A), No. 2 TGI (EPN H-15B), and No. 3 TGI (EPN H-15C) shall not exceed the following limits: **(7/08)**

<u>Pollutant</u>	<u>ppmv</u>
NO <sub>x</sub>	50
H <sub>2</sub> S	10
SO <sub>2</sub>	250

31. The minimum sulfur recovery efficiency for SRU Nos. 1, 2, and 3 shall be 99.9 percent. The sulfur recovery efficiency shall be determined by calculation as follows:

$$\text{Efficiency} = \frac{(\text{sulfur recovered}) * (100)}{(\text{sulfur acid gas})}$$

Where: Efficiency = sulfur recovery efficiency, percent  
Sulfur recovered = (Sulfur Produced), lbs/week  
Sulfur acid gas = (Sulfur Recovered + Sulfur Stack) lbs/week  
Sulfur stack = (Sulfur in incinerator stack) lbs/week.  
**(7/08)**

32. Sulfur production, S produced, shall be calculated based on the change in level of the sulfur pits.
33. Emissions from the SRU Nos. 1, 2 and 3 sulfur pits and associated tank truck sulfur loading operations shall be collected by a vapor collection system and routed to the SRU TGI via the sulfur pits, except during periods of sulfur pit and sulfur pit eductor maintenance. **(7/08)**
34. The seal legs on SRU Nos. 1, 2, and 3 shall be vented to the sulfur pits. **(7/08)**
35. All acid gas or other waste gases from these facilities shall be burned in the incinerators and/or flare (emergency use) as specified in the permit application. It is not permissible under any

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conditions to vent waste gases directly to the atmosphere. However, in the event that only an incinerator shuts down while the SRU and Tail Gas Treating Units (TGTUs) are operational, tail gas may be vented to the atmosphere through the incinerator as described in Special Condition No. 42.

36. All waste gas streams from the Amine Regeneration Units (ARU) Nos. 1, 2, and 3 containing H<sub>2</sub>S and/or VOC shall be routed to the SRUs under normal operating conditions. Only under emergency conditions shall the vent streams be sent to a flare. Any other exception to this condition requires prior review and approval by the TCEQ Executive Director, and such exceptions may be subject to strict monitoring requirements. **(7/08)**
37. The rich amine Flash Tanks (34FA3403 and 48FA1) shall be equipped with local and control room indicators along with high and low level control room alarms which provide amine or hydrocarbon level detection. These detectors shall alarm immediately should the amine or hydrocarbon go below the minimum set point on the level controller.
38. Floating roof storage tank(s) shall provide a minimum of 40,000 bbls of storage capacity for SRU sour water feed in the event an emergency situation occurs.
39. The minimum firebox chamber temperature in the SRU TGIs (EPNs H-15A, H-15B and H-15C) shall not be below 1200°F during normal operating conditions. The emergency cutoff temperature for the TGI shall be a minimum of 1600°F. The SRU Incinerators H-15A, H-15B, and H-15C firebox exit temperatures shall be continuously monitored. The temperature measurement device shall reduce the temperature readings to an averaging period of six minutes or less and record it at that frequency. The temperature monitor shall be installed, calibrated at least annually, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of ±2 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total SRU TGI operating minutes for which quality assured data was recorded divided by the total SRU TGI operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded. **(7/08)**
40. The holder of this permit shall install ambient H<sub>2</sub>S monitors throughout the sulfur recovery, amine regeneration, and sour water stripper (SWS) areas. These monitors shall be arranged in such a way that there is at least one monitor per 45 degree sector. The monitors shall be set to alarm at a concentration of 10 parts per million (ppm) and shall alarm in the control room and in the local plant area. A diagram of the operating units and the location of the monitors

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shall be provided at the plant site and made available to representatives of the TCEQ upon request.

41. Piping, Valves, Pumps, and Compressors in H<sub>2</sub>S Service (SRU Nos. 1, 2, and 3, SWS A and B, and Sulfur Terminal) (7/08)
- A. Audio, olfactory, and visual checks for H<sub>2</sub>S leaks within the operating area shall be made once per shift.
  - B. Within one-hour upon detection of a leak, plant personnel shall make one or more of the following attempts:
    - (1) Stop the leak by taking the equipment out of service or bypass the equipment so that it is no longer in service.
    - (2) Isolate the leak.
    - (3) Commence repair or replacement of the leaking component.
  - C. If the leak cannot be repaired within six hours, the holder of this permit shall use a leak collection and/or containment system to prevent the leak until repair or replacement can be made.

## SRU EMERGENCY OPERATIONAL REQUIREMENTS

42. The following are requirements for responding to emergency shutdown of SRU facility components. In all cases, the permit holder shall implement the sulfur shedding program, as necessary, to ensure acid gas flaring does not exceed 24 hours in the event of a facility component shutdown. In no circumstance shall acid gas be routed directly to the atmosphere.
- A. SRU Nos. 1, 2 and 3 Emergency Shutdown
    - (1) In the event of an emergency acid gas flaring situation, sour water feed shall be re-routed to the sour water storage tank(s) within one hour. Sour water re-routing is not required if the total ARU and SWS acid gas production can be processed in the operational SRU(s).
    - (2) Acid gas from the ARUs and SWS shall be processed in the operational SRU to the maximum extent possible. Any remaining acid gas not processed in the operational

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SRU shall be routed to an emergency flare.

- (3) The production at upstream process units shall be curtailed as specified within the sulfur shedding program within 24 hours to reduce rich amine loading and sour water processing to cease acid gas flaring.

### B. SWS

In the event SWS A or B shuts down, the associated sour water shall be routed to the remaining system if possible or be routed to the standby SWS tanks within one hour. The production at upstream process units shall be curtailed as necessary to reduce sour water production.

### C. Amine Regeneration System

In the event ARU Nos. 1, 2, or 3 shuts down, the associated rich amine shall be routed to the remaining system if possible. The production at upstream process units shall be curtailed as necessary within 24 hours so that total rich amine production can be processed by the remaining ARU(s).

### D. TGTU

In the event a TGTU shuts down, the tail gas from the associated Claus Unit shall be routed to the TGI.

### E. TGI

In the event a TGI shuts down while the SRUs and TGTUs are operational, the tail gas may be vented to the atmosphere through the incinerator for a maximum duration of one-hour. If the H<sub>2</sub>S concentration in the tail gas is less than 10 ppm, the tail gas may be vented to the atmosphere for a maximum duration of three days. If the H<sub>2</sub>S concentration in the tail gas is 10 ppm or greater or not measured and the incinerator cannot be re-started within one-hour, the holder of this permit shall implement the requirements under Section A of this condition as if the corresponding SRU had shutdown. (7/08)

## WASTEWATER SYSTEM REQUIREMENTS

43. At all times, the Process Grit Chamber (EPN P-WT-1) shall vent through a carbon adsorption system (CAS) consisting of at least two activated carbon canisters that are connected in series.

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- A. The CAS shall be sampled and recorded Monday through Friday to determine breakthrough of VOC. The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sampling shall be done during operating conditions reflecting normal operation. (7/04)
- B. The method of VOC sampling and analysis shall be by flame ionization detector (FID) or a TCEQ-approved equivalent. On each day that sampling is required, the FID shall be calibrated prior to sampling with a certified gas mixture at 0 ppmv  $\pm$ 10 percent and at 100 ppmv  $\pm$ 10 percent.
- C. Breakthrough shall be defined as a measured VOC concentration of >100 ppmv or, for benzene, >20 ppmv. Within 24 hours of detection of breakthrough, a fresh canister shall be placed as the new final polishing canister. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above-specified time frames.
- D. Records of the CAS monitoring maintained at the plant site shall include (but are not limited to) the following:
  - (1) Sample time and date.
  - (2) Monitoring results (ppmv).
  - (3) Corrective action taken, including the time and date of that action.

These records shall be made available to representatives of the TCEQ and local programs upon request and shall be retained for at least five years following the date that the data are obtained.
- E. The holder of this permit may request a change in frequency of breakthrough sampling after completing at least one year of sampling as specified above.

The request shall include a copy of the CAS monitoring records specified in Special Condition No. 43D and shall be submitted to the Austin TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division for review and response. The permit holder may not change the sampling frequency until written approval is received from the Executive Director of the TCEQ. (9/07)

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SAMPLING REQUIREMENTS

44. Sampling ports and platform(s) shall be incorporated into the design of the combustion source stacks according to the specifications set forth in the attachment entitled "Chapter 2, Stack Sampling Facilities." Alternate sampling facility designs may be submitted for approval by the Executive Director of the TCEQ.
45. The permit holder shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the sources listed in Special Condition No. 46. The permit holder is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. Sampling shall be conducted in accordance with the appropriate procedures of the TCEQ Sampling Procedures Manual and in accordance with the appropriate EPA Reference Methods.

- A. The appropriate TCEQ Regional Office shall be contacted as soon as testing is scheduled, but not less than 30 days prior to sampling to schedule a pretest meeting.

The notice shall include:

- (1) Date for pretest meeting.
- (2) Date sampling will occur.
- (3) Name of firm conducting sampling.
- (4) Type of sampling equipment to be used.
- (5) Method or procedure to be used in sampling.
- (6) Procedure/parameters to be used to determine worst case emission, such as firing rate and excess oxygen (O<sub>2</sub>), during the sampling period.

The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for the test reports. A written proposed description of any deviation from sampling procedures specified in permit conditions or a TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director or the TCEQ Office of Compliance and Enforcement (OCE), Compliance Support Division must approve any deviation from

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specified sampling procedures. Requests to waive testing for any pollutant specified in this condition shall be submitted to the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have EPA approval shall be submitted to the TCEQ OCE, Compliance Support Division.

- B. Sources listed in Special Condition No. 46 shall be tested for the specific air contaminants listed in that condition.
- C. Sampling shall occur within 60 days after the facility achieves maximum production and within 60 days after the facility achieves normal operation, but not later than 180 days after initial start-up or modification of the facilities and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires the EPA approval, and requests shall be submitted to the TCEQ Compliance Support Division in Austin.
- D. The facility being sampled shall operate at maximum firing rate during stack emission testing. These conditions/parameters and any other primary operating parameters that affect the ER shall be monitored and recorded during the stack test. Any additional parameters shall be determined at the pretest meeting and shall be stated in the sampling report. If the plant is unable to operate at maximum rates during testing, then future production rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved. Permit conditions and parameter limits may be waived during stack testing performed under this condition if the proposed condition/parameter range is identified in the test notice specified in paragraph A and accepted by the TCEQ Regional Office. Permit allowable emissions and emission control requirements are not waived and still apply during stack testing periods.
- E. Copies of the final sampling report shall be forwarded to the offices below within 60 days after sampling is completed. Sampling reports shall comply with the attached provisions entitled "Chapter 14, Contents of Sampling Reports" of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows:

One copy to the TCEQ Corpus Christi Regional Office.

One copy to the TCEQ OCE, Compliance Support Division. (7/08)

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46. Special Condition Nos. 44 and 45 shall apply to the following sources: **(10/08)**

<u>EPN</u>	<u>FIN</u>	<u>Source Name</u>	<u>Pollutants</u>
A-103	40BA101/ 40BA401	West Crude Heaters	NO <sub>x</sub> , CO
A-203	42BA1	Crude Heater	NO <sub>x</sub> , SO <sub>2</sub> , CO
A-204	42BA3	Vacuum Heater	NO <sub>x</sub> , SO <sub>2</sub> , CO
AA-4	01BF102	FCCU CO Boiler Off-Gas Scrubber	NO <sub>x</sub> , SO <sub>2</sub> , PM, CO
B-1	16BA1601	Coker Charge Heater	NO <sub>x</sub> , SO <sub>2</sub> , CO
B-2	17BA1701	Coker Reboiler	NO <sub>x</sub> , SO <sub>2</sub> , CO
D-3	04BA4	Cumene Hot Oil Heater	NO <sub>x</sub> , CO
H-15A, B and C	SRU Nos. 1, 2 and 3	SRU Incinerator Stacks 1, 2 and 3	NO <sub>x</sub> , SO <sub>2</sub> , CO, sulfur compounds
JJ-2	39BA3902-5	CCR Platformer Charge Heater	NO <sub>x</sub>
JJ-4	39BA3900	NHT Charge Heater	NO <sub>x</sub>
JJ-4	39BA3901	CCR Hot Oil Heater	NO <sub>x</sub>
JJ-5	CCR Regen	CCR Regenerator Stacks Vent	HCl, Cl <sub>2</sub>
JJ-6	39BA3906	XCR Reboiler	NO <sub>x</sub>
KK-3	37BA2	DHT Stripper Reboiler	NO <sub>x</sub>
KK-3	37BA1	DHT Charge Heater	NO <sub>x</sub>
M-5A	20BA2001-4	Ortho-Xylene Heaters B, C, and D	NO <sub>x</sub> , SO <sub>2</sub> , CO

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<u>EPN</u>	<u>FIN</u>	<u>Source Name</u>	<u>Pollutants</u>
MX-1	MX-1	MX Unit Hot Oil Heater	NO <sub>x</sub> , CO
N-103	31BA1	Parex No. 2 Heater	NO <sub>x</sub> , SO <sub>2</sub> , CO
N-104	33BA1 and 2	Common Stack – 104 MSTDP Unit	NO <sub>x</sub> , SO <sub>2</sub> , CO
N-3	61BA1201 and 1202	Common Stack –3	NO <sub>x</sub> , SO <sub>2</sub> , CO
O-10	25BA2501 and 2502	Common Stack O-10	NO <sub>x</sub> , SO <sub>2</sub> , CO
R-201	43BF1	Crude Boiler	NO <sub>x</sub> , SO <sub>2</sub> , CO
R-7	06BF657	Boiler No. 7	NO <sub>x</sub> , CO
R-8	06BF658	Boiler No. 8	NO <sub>x</sub> , CO
R-9	06BF659	Boiler No. 9	NO <sub>x</sub> , CO
VCS-2	62BA2101	VCS No. 2	NO <sub>x</sub> , CO, benzene, VOC (including DRE)
LSGHTR	LSGHTR	LSG Hot Oil Heater	NO <sub>x</sub> , CO
DDS- HTRSTK	DDS- CHGHTR and FRACRBLR	DDS Charge Heater and Fractionator Reboiler - Common Stack	NO <sub>x</sub> , CO

47. The holder of this permit shall perform sampling between the thermal reactor and first catalytic reactor on SRU Nos. 2 and 3 to ensure that no greater than 3 percent (v) light hydrocarbons (methane, ethane, and propane) and 300 ppmv of ammonia are leaving the thermal reactor. A minimum of four samples shall be collected for each compound and the results averaged to determine compliance with these limitations.

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The method of sampling shall be approved by the appropriate TCEQ Regional Office or the TCEQ Austin Compliance Support Division before start-up.

Sampling shall occur within 60 days after the facility achieves maximum production, but no later than 180 days after initial start-up of the new or modified facilities and at such other times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office.

Copies of the final sampling report shall be forwarded to the TCEQ within 60 days after sampling is completed. The reports shall be distributed as follows:

One copy to the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division in Austin.

One copy to the appropriate TCEQ Regional Office.

This sampling shall be required for SRU Nos. 1, 2, and 3 whenever sampling under Special Condition No. 45 is required for the SRU Incinerators. **(7/08)**

48. The alkaline sodium hydroxide (NaOH) or potassium hydroxide (KOH) scrubbing system for the acid relief neutralizer system shall be sampled and analyzed daily at the outlet of the scrubber for percent NaOH or KOH. These records shall be made available to TCEQ Corpus Christi Regional Office personnel upon request. The NaOH shall be added when NaOH concentration drops below 2 percent, or the KOH shall be added when KOH concentration drops below 2.8 percent. **(10/01)**

## MONITORING

49. The permit holder shall install, calibrate, and maintain a continuous emission monitoring system (CEMS) to measure and record the in-stack concentration of pollutants listed from the combustion sources listed in Special Condition No. 50.
  - A. The CEMS shall meet the design and performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B. If there are no applicable performance specifications in 40 CFR Part 60, Appendix B, contact the TCEQ Office of Permitting, Remediation, and Registration,

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Air Permits Division for requirements to be met.

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

- (1) The permit holder shall assure that the CEMS meets the applicable quality-assurance requirements specified in 40 CFR Part 60, Appendix F, Procedure 1. Relative accuracy exceedances, as specified in 40 CFR Part 60, Appendix F, § 5.2.3 and any CEMS downtime shall be reported to the appropriate TCEQ Regional Director, and necessary corrective action shall be taken. Supplemental stack concentration measurements may be required at the discretion of the appropriate TCEQ Regional Director. CEMS downtime shall be reported within 24 hours or by the end of the following business day, whichever is later. Downtime is not considered to include periods when the CEMS is operational but the 24-hour span drift exceeds the allowable amounts.
- (2) The system shall be zeroed and spanned daily and corrective action taken when the 24-hour span drift exceeds two times the amounts specified in the applicable Performance Specification Nos. 1 through 9, 40 CFR Part 60, Appendix B, or as specified by the TCEQ if not specified in Appendix B. Zero and span are not required on weekends and plant holidays if instrument technicians are not normally scheduled on those days, unless the monitor is required by a subpart of NSPS or NESHAPS in which case zero and span shall be done daily without exception.

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

All CGA exceedances of  $\pm 15$  percent accuracy indicate that the CEMS is out of control.

C. The monitoring data shall be reduced to hourly average concentrations at least weekly, using a minimum of four equally-spaced data points from each one-hour period. The individual average concentrations shall be reduced to units of the permit allowable ER in pounds per hour (lb/hr) at least once every calendar quarter (except for O<sub>2</sub>).

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- D. All monitoring data and quality-assurance data shall be maintained by the source for a period of five years. The data from the CEMS may, at the discretion of the TCEQ, be used to determine compliance with the conditions of this permit.
- E. The appropriate TCEQ Regional Office shall be notified at least 30 days prior to any required RATA in order to provide them the opportunity to observe the testing.
- F. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data); being repaired, having maintenance performed, or being calibrated (data not obtained during any daily zero and span performed is not considered invalid data).

The data availability shall be calculated as the total fired unit operating hours for which quality assured data was recorded divided by the total fired unit operating hours. The measurements missed shall be estimated using engineering judgement and the methods used recorded. Options to increase system reliability to an acceptable value, including a redundant CEMS, may be required by the TCEQ Regional Director. (7/07)

50. Special Condition No. 49 shall apply to the following sources and pollutants: (7/08)

<u>EPN</u>	<u>FIN</u>	<u>Source</u>	<u>Pollutant/Diluent Monitored</u>
D-3	04BA4	Cumene Hot Oil Heater	NO <sub>x</sub> , CO and O <sub>2</sub>
H-15A B and C	SRU No. 1 2 and 3	SRU Incinerator Stacks	SO <sub>2</sub> (per NSPS) and O <sub>2</sub>
JJ-6	39BA3906	XCR Reboiler	NO <sub>x</sub>
A-103	40BA101/ 40BA401	West Crude Heaters	NO <sub>x</sub> , CO
A-203	42BA1	Crude Heater	NO <sub>x</sub> and CO
A-204	42BA3	Vacuum Heater	NO <sub>x</sub> and CO
R-201	43BF1	Crude Boiler	NO <sub>x</sub> (per NSPS) and CO
AA-4	01BF102	FCCU CO Boiler Off-Gas Scrubber	NO <sub>x</sub> , SO <sub>2</sub> (per NSPS) and O <sub>2</sub>

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<u>EPN</u>	<u>FIN</u>	<u>Source</u>	<u>Pollutant/Diluent Monitored</u>
AA-4	01BF102	FCCU CO Boiler Outlet Duct	CO (per NSPS) and O <sub>2</sub>
LSGHTR	LSGHTR	LSG Hot Oil Heater	NO <sub>x</sub> (per NSPS) and CO
N103	31BA1	No.2 Parex Heater	NO <sub>x</sub> , CO
JJ-2	39BA3902-5	CCR Charge Heater	NO <sub>x</sub> and CO
R-7	06BF657	Boiler No. 7	NO <sub>x</sub> (per NSPS) and CO
R-8	06BF658	Boiler No. 8	NO <sub>x</sub> (per NSPS) and CO
R-9	06BF659	Boiler No. 9	NO <sub>x</sub> (per NSPS) and CO

51. The REX Cooling Tower (EPN F-S-4) cooling water shall be continuously monitored and recorded for pH at the cooling tower inlet. Fluorides at the cooling tower shall be analyzed weekly. Corrective action shall be taken immediately if the PH is less than 5.9 or if the fluoride concentration is greater than 10 ppm. The results of the analysis, monitoring, and maintenance efforts shall be recorded and such records maintained for a period of five years. These records shall be made available to TCEQ Regional Office personnel upon request. Up to 5 percent invalid pH monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total cooling tower operating minutes for which quality assured data was recorded divided by the total cooling tower operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used shall be recorded. **(10/08)**
  
52. The VCS No. 2 Firebox exit temperature shall be continuously monitored and recorded. The pH readings shall be reduced to an averaging period of six minutes or less. The temperature measurement device shall reduce the temperature readings to an averaging period of six minutes or less and record it at that frequency. The temperature monitor shall be installed, calibrated at least annually, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of ±2 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is

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- broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total VCS No. 2 Firebox operating minutes for which quality-assured data was recorded divided by the total VCS No. 2 Firebox operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded. **(8/04)**
53. The holder of this permit shall install a continuous H<sub>2</sub>S monitoring system in a representative portion of the fuel gas system common to the combustion devices covered by this permit in accordance with the fuel sulfur monitoring requirements of 40 CFR § 60.105.
54. The holder of this permit shall continuously monitor and record the pH of the scrubbing liquid used in the FCCU wet gas scrubber. The pH readings shall be reduced to an averaging period of six minutes or less. The pH of the circulating scrubbing liquid shall not be less than 6.5. Records of the circulating scrubbing liquid pH shall be kept at the plant site for a minimum of five years and shall be made available upon request. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total FCCU regeneration operating minutes for which quality assured data was recorded divided by the total FCCU regeneration operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded. **(10/08)**
55. The holder of this permit shall continuously monitor and record FCCU Scrubber slurry pump operating status. The operating status measurement device shall reduce the readings to an averaging period of six minutes or less and record it at that frequency. Records of FCCU Scrubber slurry pump operating status shall be kept at the plant site for a minimum of five years and shall be made available upon request. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out of control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total FCCU regeneration operating minutes for which quality assured data was recorded divided by the total FCCU regeneration operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded. **(10/08)**
56. A. Each combustion source shall be equipped with a fuel flow meter or a Btu analyzer for the fuel gas. The Btu analyzer must record fuel amounts in Btu/hr.
- B. For the Gas Turbine Cogeneration Facility (EPN Z-4), the holder of this permit shall install and operate a continuous monitoring system to monitor and record ambient temperature, ambient humidity, fuel flow, actual ratios of injection steam to fuel flow, and the ratio of NO<sub>x</sub> injection steam to fuel flow required by the turbine NO<sub>x</sub> controller. The system shall be accurate to ±5.0 percent. Up to 5 percent invalid monitoring data on

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a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total gas turbine operating minutes for which quality assured data was recorded divided by the total gas turbine operating minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded.

Average hourly steam versus fuel input records shall be maintained by the source for a period of five years. Hourly periods during which fuel other than refinery fuel gas is fired shall be indicated on the steam versus fuel input records. Additional monitoring records shall be maintained according to 40 CFR § 60.7(d). In accordance with 40 CFR § 60.334(j) and 40 CFR § 60.7(c), quarterly emission reports shall be sent to the TCEQ Austin Compliance Support Division and the TCEQ Corpus Christi Regional Office.

Fuel gas monitoring for sulfur and nitrogen content shall be used to comply with 40 CFR § 60.334(h).

## RECORDKEEPING

57. The holder of this permit shall produce and maintain the following records:

- A. Daily flow rates and total sulfur content of refinery fuel gas used in the combustion sources. A Btu rate may be substituted for the flow rate.
- B. Daily average SO<sub>2</sub> concentrations, calculated incinerator stack exhaust gas flow rates, and associated calculated SO<sub>2</sub> emissions (lb/hr) in the exhaust gas of the TGI (H-15A, H-15B, and H-15C).
- C. The three-hour rolling average and 12-month rolling average H<sub>2</sub>S concentration of the refinery fuel gas. Reports of fuel sulfur in excess of 0.1 gr of H<sub>2</sub>S per dscf shall be submitted to the Executive Director of the TCEQ and the TCEQ Regional Office on a quarterly basis. Notification, recordkeeping, and reporting requirements of 40 CFR § 60.7 shall be met.
- D. Weekly average sulfur recovery efficiencies for all SRUs. This record shall serve as a means to demonstrate compliance with Special Condition No. 31.
- E. Daily average charge rates gallons per minute (gpm) to the SWS A and B. The daily average charge rates shall be reduced to a calendar month average once each calendar

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quarter.

- F. Detection and component repairs and replacements made due to H<sub>2</sub>S leaks as a result of requirements established in Special Condition No. 41.
- G. ARU/SWS/SRU/TGTU/TGI shutdowns. These records shall include the following:
  - (1) The Affected Unit (ARU/SRU/TGTU/TGI 1 or ARU/SWS/SRU/TGTU/TGI 2 or SRU/TGTU/TGI 3).
  - (2) A description of all factors which caused the shutdown.
  - (3) The specific response sequence used to re-establish compliance with permitted ERs and the timing of its implementation. This condition does not exempt the permit holder from reporting requirements of 30 TAC Chapter 101.
  - (4) The duration of the downtime.

This record serves as a means to demonstrate compliance with Special Condition No. 42.

- H. A current curtailment plan (reviewed quarterly) shall be maintained on-site which describes how production at upstream process units will be curtailed in response to emergency situations. This plan is required as a means to demonstrate compliance with Special Condition No. 42.
- I. Records shall be kept of product loading to marine vessels. These records shall include (but are not limited to) date of loading, products loaded, loading rate (bbl/hr), whether the loading was controlled or uncontrolled, and cumulative annual total loading rates (bbl/year).
- J. The daily gas flow rate to the CCR Platformer Regeneration Vent Scrubber, the daily total scrubbing liquid flow rate for the scrubber, and the pH of the scrubbing liquid shall be continuously monitored and recorded. Up to 5 percent invalid monitoring data on a rolling 12-month basis is acceptable provided it is only generated when the monitor is broken down, out-of-control (producing inaccurate data), being repaired, having maintenance performed, or being calibrated. The data availability shall be calculated as the total CCR catalyst regeneration minutes for which quality assured data was recorded divided by the total CCR catalyst regeneration minutes. The measurements missed shall be estimated using engineering judgement and the methods used recorded.

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- K. Records shall be kept of the opacity readings from the FCCU Scrubber stack to meet the opacity level indicated in Special Condition No. 11. **(10/08)**
58. All ERs shall be calculated quarterly to provide an accumulated total annual ER for comparison with the established ER caps. The accumulated total ER for each pollutant must be less than its respective permitted ER cap. Compliance with the short-term ER cap shall be demonstrated for any specific hour or time period upon request by the TCEQ Corpus Christi Regional Office or a designated representative.

In order to be consistent with the 12-month rolling basis, any changes in the ER caps shall be phased in on a prorated basis using the ER caps before and after the change and the number of months that the plant has operated under each level of the ER cap.

Tank ER calculations for compliance with this permit condition are required for the following tanks:

All IFR tanks.

All External Floating Roof tanks.

Any fixed-roof tank with a true vapor pressure  $>0.5$  psia at actual storage conditions or with a throughput greater than the confidential permit application calculation basis submitted January 29, 1999.

All other fixed-roof tanks shall use the flexible permit ER cap contribution from the January 29, 1999, submittal as the estimated actual emissions.

Fixed VOC sources (process fugitives) shall be added directly into the calculated monthly VOC emissions.

59. The holder of this permit shall maintain all records necessary to demonstrate compliance with the short-term and annual emission caps and provide such demonstration upon request of the TCEQ Corpus Christi Regional Office. All records required by these conditions shall be maintained at the plant site for a minimum of five years following the date of such measurements, maintenance, reports, or records and shall be made available upon request to representatives of the TCEQ or any local air pollution agency having jurisdiction. **(10/08)**

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### REPORTING

60. In the event that the average calendar month sour water feed rate exceeds 500 gpm, the holder of this permit shall notify the TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division and the appropriate TCEQ Regional Office. Additional SWS capacity may be required to provide a minimum of 2.5 days of capacity at the revised maximum operating rate.
61. Excess emission reports for CEMS listed in Special Condition No. 50 shall be submitted to the TCEQ. The reports shall be submitted in accordance with the applicable requirements of NSPS § 60.7.

### INDIVIDUAL LIMITATIONS

62. The throughput of toluene at the east plant truck rack shall be limited to the rates identified on page 48 of the Confidential Section of the TCEQ amendment application dated February 20, 1991.

### CCR PLATFORMER REGENERATION VENT

63. The CCR Platformer Regeneration Vent shall be equipped with a caustic scrubber with a hydrochloric acid (HCl) removal efficiency of 99 percent or 10 ppm of HCl as an outlet concentration and a chlorine removal efficiency of at least 80 percent by April 15, 2005. **(8/00)**
65. No later than the pretest meeting specified in Special Condition No. 45A, additional technical information for the CCR Platformer Regeneration Vent Scrubber, including minimum absorbent flow rate and minimum effective pH, shall be submitted to the TCEQ Austin Office of Permitting, Remediation, and Registration, Air Permits Division. **(8/00)**

### OIL/WATER SEPARATOR SYSTEM

65. Carbon Sampling on a Non-Continuous Basis. At all times, the API and Eden Oil/Water Separator Systems (EPNs APICONTROL and EDENCONTROL) shall vent through a CAS consisting of at least two activated carbon canisters that are connected in series.

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- A. The CAS shall be sampled and recorded weekly to determine breakthrough of VOC. The sampling point shall be at the outlet of the initial canister but before the inlet to the second or final polishing canister. Sampling shall be done during operating conditions, reflecting maximum emission venting to the CAS. (Example: during loading, tank filling, process venting.)
- B. The method of VOC sampling and analysis shall be by FID, or a TCEQ-approved equivalent (2). On each day that sampling is required, the FID shall be calibrated prior to sampling with a certified gas mixture at 0 ppmv  $\pm$ 10 percent and at 100 ppmv  $\pm$ 10 percent.
- C. Breakthrough shall be defined as a measured VOC concentration of 100 ppmv. When the condition of breakthrough of VOC from the initial saturation canister occurs, the waste gas flow shall be switched to the second canister and a fresh canister shall be placed as the new final polishing canister within 24 hours. Sufficient new activated carbon canisters shall be maintained at the site to replace spent carbon canisters such that replacements can be done in the above specified time frames.
- D. Records of the CAS monitoring maintained at the plant site, shall include (but are not limited to) the following:
  - (1) Sample time and date.
  - (2) Monitoring results (ppmv).
  - (3) Corrective action taken including the time and date of that action.
  - (4) Process operations occurring at the time of sampling.

These records shall be made available to representatives of the TCEQ and local Programs upon request and shall be retained for at least five years following the date that the data are obtained.

- E. The holder of this permit may request a change in the definition of breakthrough after completing at least one year of daily sampling in the manner specified above. The request shall include a copy of the CAS monitoring records specified in Special Condition No. 65D and shall be submitted to the Austin TCEQ Office of Permitting, Remediation, and Registration, Air Permits Division for review and response. The permit holder may not change the definition of breakthrough unless written approval is received from the Executive Director of the TCEQ. **(10/08)**

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### SULFUR TERMINAL

66. This permit authorizes emissions from the sulfur terminal maintenance activity on the LO-CAT Unit (EPN F-STM) for daily and periodic shutdowns. The LO-CAT routine maintenance and daily maintenance is limited to the confidential process steps shown on page 6 of the confidential submittal dated March 26, 2003. This submittal shall be kept at the plant site for review by TCEQ personnel upon request. These emissions are subject to the maximum allowable ERs indicated on the MAERT. Any maintenance, start-up, and shutdown (MSS) activities not listed above are not authorized by this permit. Records shall be kept at the plant demonstrating compliance with this representation for the last five years. **(10/08)**
67. Sulfur loading throughput into the sulfur degassing pit is limited to 2,000 long tons per day. Only one of the two Sulfur Storage Tanks (EPN 53FB1 and 53FB2) shall be filled with sulfur at any time. Uncontrolled sulfur loading into a barge and ship is allowed from facilities covered by this permit. **(6/03)**
68. Ambient sweep air from the sulfur degassing pit shall be directed to the LO-CAT unit (EPN ST-1) at all times except during periods of LO-CAT maintenance shown in Special Condition No. 66. The H<sub>2</sub>S outlet concentration from the LO-CAT unit (EPN ST-1) shall be one ppmv or less except during periods of maintenance shown in Special Condition No. 66. The LO-CAT outlet sampling using a Draeger-type pump and tube shall be done once a week for six months starting in June 2003 and then once a month thereafter if once a week sampling shows no exceedances of the H<sub>2</sub>S outlet concentration. Records shall be kept at the plant site of the sampling times and results on a rolling two-year basis. These records shall be made available to TCEQ personnel upon request.

The H<sub>2</sub>S concentration in the degassed liquid sulfur in the degassing pit shall be at or less than 100 ppm. Degassed sulfur shall be sampled prior to transfer into the storage tanks or at the storage tanks at least once a calendar year. Demonstration of compliance with the 100 ppm H<sub>2</sub>S limit shall be based on a sampling procedure submitted to and approved by the nearest TCEQ Regional Office with jurisdiction or TCEQ Austin Compliance Support Division. Any exceedance of the 100 ppm H<sub>2</sub>S concentration in the degassed liquid sulfur then the vapor space in the storage tank will be sampled as soon as practicable using a Draeger-type detector tube to demonstrate compliance with the permitted ERs. The holder of this permit will notify the nearest TCEQ Regional Office with jurisdiction if the H<sub>2</sub>S concentration in the degassed liquid sulfur and the measured emissions from the storage tank exceed the permitted limits. **(6/03)**

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META-XYLENE RAILCAR LOADING

69. The meta-xylene loading rack shall be equipped with a vapor collection system to control metaxylene emissions during railcar loading. These emissions will be sent to the Vapor Combustor (EPN COMB-2). It is not permissible under any conditions to vent waste gases directly to the atmosphere. **(8/05)**
70. The maximum loading rate of metaxylene into the railcars is limited to the rates specified on page 1 of the Confidential Section of the file for Permit Number 19331 submittal dated January 23, 1997. **(8/05)**

MAINTENANCE, START-UP, AND SHUTDOWN

71. This permit authorizes emissions from the Coker Unit for the following MSS activities:

Coker Burnout

These emissions are subject to the maximum allowable emission rates indicated on the MAERT. The performance of these activities and the emissions associated with each shall be recorded and the rolling 12-month emissions shall be updated on a monthly basis. Any MSS activities not in the above list are not authorized by this permit.

PROJECTED ACTUAL EMISSION RATES

72. The modifications authorized by the amendment, PI-1 dated May 15, 2006, were determined not to be subject to major new source review by identifying projected actual emission rates for the facilities potentially affected by the project. Actual emissions from those facilities shall be monitored, recorded and reports made in accordance 30 TAC § 116.121 for the time period specified in 30 TAC § 116.121(b)(1). **(8/06)**
73. The Cogeneration Unit modifications represented in the alteration application dated October 30, 2006, were determined not to be subject to major new source review by identifying projected actual emission rates for the facilities potentially affected by the project. Upon completion of the modifications, actual emissions from the Cogeneration Unit shall be monitored, recorded and reports made in accordance with 30 TAC § 116.121 for the time period specified in 30 TAC § 116.121(b)(1). **(12/06)**

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74. The SRU3/DDS modifications authorized by the amendment application originally dated September 12, 2006, were determined not to be subject to major new source review for NO<sub>x</sub>, CO and VOC by identifying project emission increases for the following facilities potentially affected by the project.

Affected Facilities for NO<sub>x</sub>:

<u>EPN</u>	<u>Description</u>	
H-15C	SRU No.3 Incinerator Stack	
DDS-HTRSTK	DDS Charge Heater	
DDS-HTRSTK	DDS Fractionator Reboiler	
	NO <sub>x</sub> Emission Increase TOTAL	39.68 tpy

Affected Facilities for CO:

<u>EPN</u>	<u>Description</u>	
H-15C	SRU No.3 Incinerator Stack	
DDS-HTRSTK	DDS Charge Heater	
DDS-HTRSTK	DDS Fractionator Reboiler	
	CO Emission Increase TOTAL	50.84 tpy

Affected Facilities for VOC:

<u>EPN</u>	<u>Description</u>	
H-15C	SRU No.3 Incinerator Stack	
DDS-HTRSTK	DDS Charge Heater	
DDS-HTRSTK	DDS Fractionator Reboiler	
F-RR	Sulfur Recovery Unit Complex Fugitives	
F-DDS	DDS Equipment Fugitives	
F-S-9	DDS Cooling Tower	
F-S-10	Sulfur Plant Cooling Tower	
15FB-DSL	Diesel Fuel Tank	
F-TK-VOC	Diesel Fuel Tank Fugitives	
FB3045	Tank 40FB4045	
FB3046	Tank 40FB 3046	
FB3047	Tank 40FB3047	
FB401	Tank11FB401	
FB402	Tank11FB402	
FB403	Tank11FB403	

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FB409	Tank11FB409	
FB410	Tank11FB410	
VOC Emission Increase TOTAL		37.20 tpy

Actual emissions from potentially affected sources shall not exceed the totals specified in this condition. To comply with the above totals; upon completion of the modifications, the actual emissions shall be monitored, recorded and reports made in accordance with 30 TAC § 116.121 for the time period specified in 30TAC §116.121(b)(1).

Actual project emission increases for NOx, CO and VOC shall be evaluated on a 12-month rolling average basis, calculated quarterly in conjunction with flexible permit emission cap calculations as required by Special Condition No. 58. Actual emissions from the equipment listed in this condition shall individually contribute to the project emission totals of this condition and the flexible permit caps listed in the MAERT. The emission caps for NOx, CO and VOC on MAERT shall not increase due to the SRU3/DDS project. (7/08)

TEMPORARY STORAGE

75. In association with the planned West Plant Udex Unit turnaround in May 2007, permit holder is authorized to use Tanks 08FB148, 08FB162, 15FB512, and 15FB513 for additional storage of CCR Reformate. Records shall be kept on-site indicating the Udex Unit downtime. A copy of the amendment application dated March 26, 2007, representing the West Plant Udex Unit turnaround emissions shall be kept on-site. All records shall be made available to the representatives of the TCEQ or any other local program having jurisdiction.

Start-up, shutdown, and maintenance (SSM) emissions generated during the turnaround shall be reported in accordance with the 30 TAC § 101.211 until those SSM emissions are authorized. (5/07)

COMPLIANCE SCHEDULE

76. The holder of this permit shall install a Selective Non-Catalytic Reduction (SNCR) Unit to control NOx emissions from the FCCU CO Boiler/Scrubber (EPN AA-4) to comply with the Consent Decree entered on April 25, 2001, with EPA and Department of Justice, as amended. After the implementation of the SNCR Unit, the permit holder shall test the NOx and NH3 from the CO Boiler/Scrubber during the 18 month data collection period. Upon the completion of the 18 month data collection and 6-month data evaluation period (24-month total), the permit holder shall apply for an alteration or an amendment to update the NOx and NH<sub>3</sub> emissions in the permit based on collected data, if necessary. (10/08)

SPECIAL CONDITIONS

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Dated \_\_\_\_\_

## EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

Flexible Permit Numbers 8803A and PSD-TX-413M9

This table lists the maximum allowable emission caps and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

### AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u>	
			lb/hr	TPY

#### NO<sub>x</sub> Sources and Caps:

Combustion Sources, Flares (5, 6)

NO<sub>x</sub>

#### EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/00)	NO <sub>x</sub>	1409.80	5266.82
Intermediate Cap (1/1/01 - 12/31/01)	NO <sub>x</sub>	1383.93	5153.00
Intermediate Cap (1/1/02 - 12/31/02)	NO <sub>x</sub>	1289.75	4740.40
Intermediate Cap (1/1/03 - 12/31/03)	NO <sub>x</sub>	1253.79	4582.44
Intermediate Cap (1/1/04 - 12/31/04)	NO <sub>x</sub>	1213.41	4415.93
Intermediate Cap (1/1/05 - 12/31/06)	NO <sub>x</sub>	1150.93	3123.66
Intermediate Cap (1/1/07 - 9/30/08)	NO <sub>x</sub>	1068.23	2762.23
Final Cap ( 10/08)	NO <sub>x</sub>	1055.83	2708.36

#### CO Sources and Caps:

Combustion Sources, Flares (5, 6)

CO

Miscellaneous Sources as listed below:

N-105

STDP Reactor Regeneration Vent

CO

#### EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/00)	CO	883.74	2580.16
Intermediate Cap (1/1/01 - 12/31/01)	CO	901.50	2657.98
Intermediate Cap (1/1/02 - 12/31/03)	CO	896.03	2631.72
Intermediate Cap (1/1/04 - 12/31/04)	CO	924.32	2798.97

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
	Intermediate Cap (1/1/05 - 12/31/06)	CO	884.57	2624.91
	Intermediate Cap (1/1/07 - 9/30/08))	CO	853.51	2488.80
	Final Cap (10/08)	CO	877.65	2594.64

**SO<sub>2</sub> Sources and Caps:**

Combustion Sources, Flares (5, 6)

SO<sub>2</sub>

EMISSION RATE CAPS

Initial Cap ( 3/23/99 - 12/31/00)	SO <sub>2</sub>	954.11	1167.72
Intermediate Cap (1/1/01 - 12/31/01)	SO <sub>2</sub>	962.12	1188.76
Intermediate Cap (1/1/02 - 12/31/04)	SO <sub>2</sub>	950.38	980.75
Intermediate Cap (1/1/05 - 12/31/06)	SO <sub>2</sub>	942.51	965.79
Intermediate Cap (1/1/07 - 7/31/08)	SO <sub>2</sub>	922.13	912.24
Final Cap (8/1/08 )	SO <sub>2</sub>	951.20	1032.42

**PM/PM<sub>10</sub> Source and Caps**

Combustion Sources (6)

PM/PM<sub>10</sub>

Miscellaneous Sources as listed below:

CKH-1

Coke Handling

PM/PM<sub>10</sub>

EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/00)	PM/PM <sub>10</sub>	125.71	583.53
Intermediate Cap (1/1/01 - 12/21/01)	PM/PM <sub>10</sub>	125.60	583.02
Intermediate Cap (1/1/02 - 12/31/04)	PM/PM <sub>10</sub>	130.50	547.18
Intermediate Cap (1/1/05 - 12/31/06)	PM/PM <sub>10</sub>	130.28	546.15
Intermediate Cap (1/07 - 7/31/08)	PM/PM <sub>10</sub>	118.37	493.94
Intermediate Cap (8/1/08 - 9/30/08)	PM/PM <sub>10</sub>	119.39	498.37
Final Cap (10/08)	PM/PM <sub>10</sub>	120.02	501.19

## EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY

**H<sub>2</sub>S Sources and Caps:**

Flares (5, 6)		H <sub>2</sub> S		
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Stationary Sources are listed below:

53FB1	Sulfur Storage Tank	H <sub>2</sub> S		
53FB2	Sulfur Storage Tank	H <sub>2</sub> S		
F-S-9	DDS Cooling Tower	H <sub>2</sub> S		
F-S-10	Sulfur Plant Cooling Tower	H <sub>2</sub> S		
H-15A	SRU No. 1 Incinerator	H <sub>2</sub> S		
H-15B	SRU No. 2 Incinerator	H <sub>2</sub> S		
H-15C	SRU No. 3 Incinerator	H <sub>2</sub> S		
ST-1	LO-CAT Sulfur Terminal	H <sub>2</sub> S		
W-8	Sulfur Terminal Marine Loading	H <sub>2</sub> S		

Process Fugitive Sources are listed below:

F-FGHU	FGHU Fugitives	H <sub>2</sub> S		
F-RR	SRU Fugitives	H <sub>2</sub> S		
F-ST	Sulfur Terminal	H <sub>2</sub> S		
	Intermediate Cap (4/15/03 - 7/31/08)	H <sub>2</sub> S	6.07	6.40
	Final Cap (8/1/08)	H <sub>2</sub> S	6.37	7.72

Start-Up, Shutdown, and Maintenance Emissions

F-STM	LO-CAT Maintenance	H <sub>2</sub> S		
	Emission Rate Cap (4/15/03)	H <sub>2</sub> S	0.17	0.03

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EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

<u>Emission Point No. (1)</u>	<u>Source Name (2)</u>	<u>Air Contaminant Name (3)</u>	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

**VOC Sources and Caps:**

Combustion Sources, Cooling Towers, Flares, Fugitives, Tanks (5, 6) and Miscellaneous Sources as listed below: VOC

EXANVENTS	Exempted Analyzer Vents (7)	VOC
P-WT-1	Sedimentation Chamber	VOC
WP-WT	Wastewater Treatment	VOC
WT-AB	Aeration Basins	VOC
APICNTROL	API OWS Control System	VOC
EDENCNTROL	Edens OWS Control System	VOC
FB9	Tank 08FB9	VOC
FB17	Tank 08FB17	VOC
F-WW-MID	Wastewater Fugitives	VOC

EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/00)	VOC	4036.26	2982.09
Intermediate Cap (1/1/01 - 12/31/01)	VOC	4078.77	2902.81
Intermediate Cap (1/1/02 - 12/31/02)	VOC	4064.96	2831.26
Intermediate Cap (1/1/03 - 12/31/03)	VOC	4064.96	2771.26
Intermediate Cap (1/1/04 - 12/31/04)	VOC	3716.48	2532.64
Intermediate Cap (1/1/05 - 7/31/05)	VOC	3564.15	2236.20
Intermediate Cap (8/1/05 - 12/31/06)	VOC	3499.18	2200.25
Intermediate Cap (1/1/07 - 9/30/08)	VOC	3497.44	2192.73
Final Cap (10/08)	VOC	3496.20	2202.93

**Benzene Sources and Caps:**

Tanks as listed below:

FB153	Tank FB153	Benzene
FB154	Tank FB154	Benzene
15FB511	Tank FB511	Benzene
FB605	Tank FB605	Benzene
FB610	Tank FB610	Benzene

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
EMISSION RATE CAPS				
	Intermediate Cap (3/23/99 - 12/31/01)	Benzene	41.90	19.40
	Intermediate Cap (1/1/02 - 12/31/03)	Benzene	40.90	17.09
	Intermediate Cap (1/1/04 - 12/31/04)	Benzene	8.29	12.75
	Intermediate Cap (1/1/05 - 7/31/05)	Benzene	8.29	12.75
	Final Cap (8/1/05)	Benzene	3.09	5.60

**Ethylbenzene Sources and Caps:**

Tanks as listed below:

18FB1801	Tank 18FB1801	Ethylbenzene
18FB1802	Tank 18FB1802	Ethylbenzene
19FB1901	Tank 19FB1901	Ethylbenzene
19FB1902	Tank 19FB1902	Ethylbenzene
19FB1903	Tank 19FB1903	Ethylbenzene
19FB1904	Tank 19FB1904	Ethylbenzene
19FB1905	Tank 19FB1905	Ethylbenzene
21FB2102	Tank 21FB2102	Ethylbenzene
28FB2801	Tank 28FB2801	Ethylbenzene
28FB2802	Tank 28FB2802	Ethylbenzene
28FB2803	Tank 28FB2803	Ethylbenzene
28FB2804	Tank 28FB2804	Ethylbenzene
28FB2805	Tank 28FB2805	Ethylbenzene
28FB2806	Tank 28FB2806	Ethylbenzene
28FB2807	Tank 28FB2807	Ethylbenzene
28FB2808	Tank 28FB2808	Ethylbenzene
28FB2809	Tank 28FB2809	Ethylbenzene
28FB2810	Tank 28FB2810	Ethylbenzene
28FB2812	Tank 28FB2812	Ethylbenzene
28FB2813R1	Tank 28FB2813R1	Ethylbenzene
28FB2814R1	Tank 28FB2814R1	Ethylbenzene
28FB2823R1	Tank 28FB2823R1	Ethylbenzene
28FB2824	Tank 28FB2824	Ethylbenzene
28FB2825	Tank 28FB2825	Ethylbenzene
28FB2826	Tank 28FB2826	Ethylbenzene
28FB2827	Tank 28FB2827	Ethylbenzene

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
28FB2830	Tank 28FB2830	Ethylbenzene		
28FB2831R1	Tank 28FB2831R1	Ethylbenzene		
28FB2832	Tank 28FB2832	Ethylbenzene		
28FB2833	Tank 28FB2833	Ethylbenzene		
28FB2839	Tank 28FB2839	Ethylbenzene		
28FB2840	Tank 28FB2840	Ethylbenzene		
28FB2841R1	Tank 28FB2841R1	Ethylbenzene		
28FB2842	Tank 28FB2842	Ethylbenzene		
28FB2843	Tank 28FB2843	Ethylbenzene		
FB611	Tank FB611	Ethylbenzene		
FB612	Tank FB612	Ethylbenzene		
FB613	Tank FB613	Ethylbenzene		
FB614	Tank FB614	Ethylbenzene		
FB621	Tank FB621	Ethylbenzene		
FB622	Tank FB622	Ethylbenzene		
EMISSION RATE CAPS (3/23/99)		Ethylbenzene	255.8	14.4

**Toluene Sources and Caps:**

Tanks as listed below:

28FB2805	Tank 28FB2805	Toluene
FB131	Tank FB131	Toluene
FB132	Tank FB132	Toluene
FB133	Tank FB133	Toluene
FB143	Tank FB143	Toluene
FB144	Tank FB144	Toluene
FB148	Tank FB148	Toluene
FB152	Tank FB152	Toluene
FB514	Tank FB514	Toluene
FB602	Tank FB602	Toluene
FB603	Tank FB603	Toluene
FB604	Tank FB604	Toluene
FB605	Tank FB605	Toluene
FB606	Tank FB606	Toluene
FB608	Tank FB608	Toluene

## EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
FB609	Tank FB609	Toluene		
FB610	Tank FB610	Toluene		
EMISSION RATE CAPS				
	Intermediate Cap (3/23/99 - 12/31/03)	Toluene	63.39	16.74
	Final Cap (1/1/04)	Toluene	61.44	13.76

**Xylene Sources and Caps:**

Tanks as listed below:

18FB1801	Tank 18FB1801	Xylene
18FB1802	Tank 18FB1802	Xylene
19FB1901	Tank 19FB1901	Xylene
19FB1902	Tank 19FB1902	Xylene
19FB1903	Tank 19FB1903	Xylene
19FB1904	Tank 19FB1904	Xylene
19FB1905	Tank 19FB1905	Xylene
19FB1906	Tank 19FB1906	Xylene
21FB2102	Tank 21FB2102	Xylene
22FB2201	Tank 22FB2201	Xylene
22FB2202	Tank 22FB2202	Xylene
25FB2501	Tank 25FB2501	Xylene
25FB2551	Tank 25FB2551	Xylene
25FB2552	Tank 25FB2552	Xylene
25FB2553	Tank 25FB2553	Xylene
28FB2801	Tank 28FB2801	Xylene
28FB2802	Tank 28FB2802	Xylene
28FB2803	Tank 28FB2803	Xylene
28FB2804	Tank 28FB2804	Xylene
28FB2805	Tank 28FB2805	Xylene
28FB2806	Tank 28FB2806	Xylene
28FB2807	Tank 28FB2807	Xylene
28FB2808	Tank 28FB2808	Xylene
28FB2809	Tank 28FB2809	Xylene
28FB2810	Tank 28FB2810	Xylene
28FB2812	Tank 28FB2812	Xylene

## EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

## AIR CONTAMINANTS DATA

<u>Emission Point No. (1)</u>	<u>Source Name (2)</u>	<u>Air Contaminant Name (3)</u>	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>
28FB2813R1	Tank 28FB2813R1	Xylene		
28FB2814R1	Tank 28FB2814R1	Xylene		
28FB2823R1	Tank 28FB2823R1	Xylene		
28FB2824	Tank 28FB2824	Xylene		
28FB2825	Tank 28FB2825	Xylene		
28FB2826	Tank 28FB2826	Xylene		
28FB2827	Tank 28FB2827	Xylene		
28FB2830	Tank 28FB2830	Xylene		
28FB2831R1	Tank 28FB2831R1	Xylene		
28FB2832	Tank 28FB2832	Xylene		
28FB2833	Tank 28FB2833	Xylene		
28FB2839	Tank 28FB2839	Xylene		
28FB2840	Tank 28FB2840	Xylene		
28FB2841R1	Tank 28FB2841R1	Xylene		
28FB2842	Tank 28FB2842	Xylene		
28FB2843	Tank 28FB2843	Xylene		
FB10	Tank FB10	Xylene		
FB102	Tank FB102	Xylene		
FB106	Tank FB106	Xylene		
FB113	Tank FB113	Xylene		
FB114	Tank FB114	Xylene		
FB131	Tank FB131	Xylene		
FB133	Tank FB133	Xylene		
FB149	Tank FB149	Xylene		
FB150	Tank FB150	Xylene		
FB154	Tank FB154	Xylene		
FB405	Tank FB405	Xylene		
FB511	Tank FB511	Xylene		
FB512	Tank FB512	Xylene		
FB513	Tank FB513	Xylene		
FB514	Tank FB514	Xylene		
FB607	Tank FB607	Xylene		
FB611	Tank FB611	Xylene		
FB612	Tank FB612	Xylene		
FB613	Tank FB613	Xylene		
FB614	Tank FB614	Xylene		
FB615	Tank FB615	Xylene		
FB616	Tank FB616	Xylene		

## EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

## AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
FB621	Tank FB621	Xylene		
FB622	Tank FB622	Xylene		
FB623	Tank FB623	Xylene		
FB624	Tank FB624	Xylene		
FB627	Tank FB627	Xylene		
FB628	Tank FB628	Xylene		
FB629	Tank FB629	Xylene		
FB630	Tank FB630	Xylene		
FB631	Tank FB631	Xylene		

## EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/00)	Xylene	1193.60	185.60
Intermediate Cap (1/1/01 - 12/31/01)	Xylene	1193.12	183.49
Intermediate Cap (1/1/02 - 12/31/03)	Xylene	1180.65	174.08
Intermediate Cap (1/1/04 - 7/31/05)	Xylene	1184.64	168.43
Final Cap (8/1/05)	Xylene	1109.35	131.24

**Reduced Sulfur Compounds Sources and Caps:**

Combustion Sources as listed below:

H-15A	SRU No. 1 Incinerator	RSC		
H-15B	SRU No. 2 Incinerator	RSC		
H-15C	SRU No. 3 Incinerator	RSC		
Intermediate Cap 3/23/99 - 7/31/08)		RSC	0.88	2.02
Final Cap (8/1/08)		RSC	1.18	3.34

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

<u>Emission Point No. (1)</u>	<u>Source Name (2)</u>	<u>Air Contaminant Name (3)</u>	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

**Hydrogen Chloride Sources and Caps:**

Flares as listed below:

V-5-UF	Ultraformer Flare	HCl
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Miscellaneous Sources as listed below:

JJ-5	CCR Regeneration Vent	HCl
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EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/04)	HCl	21.55	91.23
Final Cap (1/1/05)	HCl	0.96	1.06

**Chlorine Sources and Caps:**

Miscellaneous Sources as listed below:

JJ-5	CCR Regeneration Vent	Cl <sub>2</sub>
F-S-9	DDS Cooling Tower	Cl <sub>2</sub>
F-S-10	Sulfur Plant Cooling Tower	Cl <sub>2</sub>

EMISSION RATE CAPS

Initial Cap (3/23/99 - 12/31/07)	Cl <sub>2</sub>	3.29	14.42
Final Cap (1/1/08)	Cl <sub>2</sub>	0.65	2.89

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY
<b>Ammonia Sources and Caps:</b>				
Miscellaneous Sources as listed below:				
AA-4	FCCU CO Boiler/Scrubber (8)	NH <sub>3</sub>		
F-01	FCCU Fugitives	NH <sub>3</sub>		
	Final Cap (10/08)	NH <sub>3</sub>	11.93	31.43

**Individual Emission Limits**

LW-7	East Plant Truck Rack	VOC	36.89	6.03
COMB-2	East Loading Rack Vapor Combustor	NO <sub>x</sub>	0.27	0.10
		CO	1.06	0.41
		VOC	2.01	0.57
F-W-7	Equipment Fugitives (4)	VOC	0.15	0.70
VCS-1	Marine Vapor Combustor	NO <sub>x</sub>	19.32	4.62
		CO	76.92	18.44
		SO <sub>2</sub>	0.01	0.09
		VOC	125.07	30.71
W-8	Uncontrolled Marine Loading	VOC	277.80	13.02

START-UP, SHUTDOWN, AND MAINTENANCE EMISSIONS:

BIBRNOUT	Coker Burnout	NO <sub>x</sub>	0.55	0.03
		CO	16.42	0.79
		SO <sub>2</sub>	17.72	0.85
		PM	1.82	0.09
		VOC	1.82	0.09

EMISSION SOURCES, EMISSIONS CAPS, AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

<u>Emission Point No. (1)</u>	<u>Source Name (2)</u>	<u>Air Contaminant Name (3)</u>	<u>Emission Rates *</u>	
			<u>lb/hr</u>	<u>TPY</u>

- (1) Emission point identification - either specific equipment designation or emission point number (EPN) from a plot plan.
- (2) Specific point source names. For fugitive sources use area name or fugitive source name.
- (3) NO<sub>x</sub> - total oxides of nitrogen
- CO - carbon monoxide
- SO<sub>2</sub> - sulfur dioxide
- PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>
- PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
- H<sub>2</sub>S - hydrogen sulfide
- VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- RSC - reduced sulfur compounds other than H<sub>2</sub>S
- Cl<sub>2</sub> - chlorine
- HCl - hydrogen chloride
- NH<sub>3</sub> - ammonia
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) FGHU/FGRU representations - emissions may occur from any or all of these Flare EPNs V-5-Main, V-5-AG, V-5-UF, V6, and V7.
- (6) See Emission Source Table for EPNs and source names.
- (7) The analyzer vents are identified in the confidential attachment submitted January 29, 1999.
- (8) The NO<sub>x</sub>, CO, VOC, SO<sub>2</sub> and PM/PM<sub>10</sub> emissions from EPN AA-4 are under the caps.

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

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

Dated \_\_\_\_\_

## Flexible Permit Amendment Source Analysis & Technical Review

Company:	Flint Hills Resources LP	Permit No.:	8803A/PSD-TX-413M8
City:	Corpus Christi	Project No.:	124129
County:	Nueces	Account No.:	NE-0122-D
Project Type:	FAMD	Regulated Entity No.:	RN100235266
Project Reviewer:	Dr. Ozden Tamer	Customer Reference No.:	CN600879712
Facility Name:	West Refinery		

### Authorization Checklist

Will a new policy/precedent be established? (ED signature required if yes) .....	No
Is a state or local official opposed to the permit?(ED signature required if yes) .....	No
Is waste or tire derived fuel involved? (ED signature required if yes) .....	No
Are waste management facilities involved?(ED signature required if yes) .....	No
Will action on this application be posted on the Executive Director's agenda? .....	Yes
Have any changes to the application or subsequent proposals been required to increase protection of public health and the environment during the review? .....	No

### Project Overview

Flint Hills Resources, LP., (FHR) submitted this flexible permit amendment application to roll-in the following standard permits (Std Permits) and permit by rules (PBRs) into the permit.

- Std Permit No. 74076 - Authorized installation of a floating roof on Tank 08FB17
- Std Permit No. 77459 - Authorized installation of Steam Injection System (SIS) on No. 2 Parex Heater
- Std Permit No. 77655 - Authorized installation of Ultra Low NO<sub>x</sub> Burners (ULNB) on West Crude Heaters
- Std Permit No. 79214 - Authorized installation of a Caustic Scrubber on Monroe API Separator.
- Std Permit No. 76446 - Authorized installation of a SNCR on FCCU CO Boiler/Scrubber
- PBR Registration No. 75266 - Authorized Tank 08FB17 to store UDEX Reformate

FHR also proposed to update the emission calculations using the most recent AP-42 factors for the heaters.

Permit reviewer informed the FHR that standard permits and the PBR can be rolled-in except the Std Permit No. 76446 because this standard permit specifically requires the permit holder to do the data collection for 18 months and data evaluation for 6 months before the final emissions can be rolled into the Flexible Permit No. 8803A. FHR responded by stating that obtaining a standard permit for a control technology for a source which is already under the flexible permit was a mistake, therefore Std Permit No. 76446 needs to be voided. The following is a more detailed explanation of this issue and the decision made as to how to handle it:

EPA's Consent Decree (entered on April 25, 2001 between EPA and the Department of Justice) required a selective noncatalytic reduction (SNCR) technology on the FCCU CO Boiler/Scrubber (EPN AA-4) to reduce the NO<sub>x</sub> emissions. This boiler/scrubber is already being operated under the flexible permit caps except the ammonia emissions from SNCR. FHR went ahead and received Std Permit No. 76446 on 8/18/2005 for installation of a SNCR Unit at FCCU CO Boiler. After discussing this issue with our Chemical Section Manager, FHR requested to void the Std Permit 76446 because NO<sub>x</sub>, CO, VOC, SO<sub>2</sub> and PM emissions from EPN AA-4 are already under the flexible permit cap. Since NH<sub>3</sub> emissions from the SNCR was not authorized by the flexible permit (although authorized by the standard permit), FHR is now seeking authorization for the NH<sub>3</sub> emissions from the SNCR through this amendment. Since NH<sub>3</sub> emissions are greater than the 5 tpy trigger limit for public notice (PN), a PN was required late in the permit review process and NH<sub>3</sub> emissions also needed modeling.

FHR modeled the NH<sub>3</sub> emissions from the EPN AA-4 and the FCCU Fugitives (EPN 01). Modeling results are audited by the modeling team and accepted. The impacts are less than 10% of ESL for ammonia, therefore, no further review is necessary.

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

There will be no physical and operational changes due to this amendment. Allowable emission changes (proposed allowable - current permit (dated July 25, 08) allowable differences due to PBR and Std Permit roll-ins, NH<sub>3</sub> emission authorization from SNCR at EPN AA-4, and emission calculation methodology updates) will be as follows:

NOx: - 53.87 tpy; CO: 105.84 tpy, VOC: 10.19 tpy; PM/PM<sub>10</sub>: 2.82 tpy, NH<sub>3</sub>: 31.43.

Ammonia emission increase is due to the SNCR installation at EPN AA-4. An NH<sub>3</sub> emission cap is added on the MAERT and emission caps on the current permit's MAERT are adjusted to reflect the above changes. MAERT levels for NOx, CO, PM/PM<sub>10</sub> and VOC are updated to reflect the roll-in of the standard permits and the permit by rule. A requirement for NOx and NH<sub>3</sub> testing from the SNCR at EPN AA-4 is placed in SC. 76.

Similar to the permit wording in the SCs. 50 and 53 of the current permit dated July 25, 2008, 5% invalid monitoring data clause is included in SCs. 51, 52, 55, 56 and 57 of the draft permit.

The components under the 28M Fugitive Monitoring of the current permit dated July 25, 2008 are placed under the 28 VHP fugitive monitoring program and the 28M program is deleted. Also, the requirements of 28VHP and the leak detection and repair time lines are made more stringent.

West Crude Heaters (EPN A-103) with the appropriate emission factors are added to the emission factor table in SC.2. Emission factor for No. 2 Parex Hot Oil Heater (EPN N-103) in SC. 2 is reduced from 0.062 lb NOx/MMBtu to 0.045 lb NOx/MMBtu. Also, the following EPNs with their appropriate emission factors are added to the emission factor table in SC. 2: M-5A, M-5D and O-10.

The record keeping period in the draft permit is changed to 5 years.

West Crude Heaters (EPN A-103) is added in SC. 46 for the initial testing of the heaters for NOx and CO. Also, these West Crude Heaters and No.2 Parex Heater (EPN N-103) are added to SC. 50 for continuous emission monitoring for NOx and CO.

### Compliance History

In compliance with 30 TAC Chapter 60, a compliance history report was prepared on: ..... 10/12/07

The compliance period was from 9/1/02 to 8/31/07

Was the application received after September 1, 2002? Yes

If yes, what was the site rating? 1.41 (average)

Company rating? 3.91 (average)

Is the permit recommended to be denied or has the permit changed on the basis of compliance history or rating? ..... No

### Public Notice Information - 116.740 defers to 30 TAC Chapter 39

§39.403 Public notification required? ..... Yes for ammonia

A. Date application received: August 09, 2006 Date Administrative Complete: ..... 8/15/06

B. Small Business source? ..... No

§39.418 C. Date 1st Public Notice /Admin Complete/Legislators letters mailed: ..... 8/15/06

§39.603 D. Pollutants: NOx, CO, VOC, PM, SO<sub>2</sub>, NH<sub>3</sub>

E. Date Published: February 16, 2007 in Corpus Christi Caller Times

Date Affidavits/copies received: February 26, 2007

F. Bilingual Notice Required? ..... No

§39.604 G. Certification of Sign Posting/Application availability ..... Yes

H. Public Comments Received? Yes. A copy of public comment letter with a contested case hearing request is attached.

Meeting Requested? No

Meeting Held? No

Hearing Requested? Yes

Hearing Held?

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

Was/were the request(s) withdrawn? No

Replies to Comments sent to OCC:.....

Consideration of Comments: Yes, an RTC will be drafted

§39.419 2nd Public Notification required? ..... Yes

A. Date 2nd Notice mailed: ..... 5/31/07

B. Preliminary Determination: Issue

C. Pollutants: NO<sub>x</sub>, CO, VOC, PM, SO<sub>2</sub>, NH<sub>3</sub>

D. Date Published: June 1, 2007 In: Corpus Christi Caller/Times

Date Affidavits/Copies Received: June 20, 2007

E. Bilingual Notice Required? No

F. Public Comments Received? Yes

Meeting Requested? .....No

Meeting Held? NA

Hearing Requested? .....No

Hearing Held? NA

Was/were the request(s) withdrawn? No

Date:

§39.420 G. Consideration of Comments: Yes

RTC, Tech Review & Draft Permit Conditions sent to OCC? Yes

Request for Reconsideration Received? Yes

H. Final Action: Issue Letters Enclosed? Yes

### Emission Controls

§116.711(7) Is the facility expected to perform as represented in the application? ..... Yes

### Sampling and Testing

§116.711(1) Are the emissions expected to comply with all TCEQ air quality rules and regulations, and the intent of the Texas Clean Air Act? ..... Yes

§116.711(2) Will emissions be measured? ..... Yes

Comments: CO Boiler/Scrubber (EPN AA-4) emissions will be tested after the SNCR installation according to the terms of the Consent Decree and the permit's SC. 76. NO<sub>x</sub> and CO from the West Crude heaters will be tested initially and, CEMs testing will be performed on both West Crude Heaters and No.2 Parex hot Oil Heater

### Federal Program Applicability

§116.711(4) Compliance with applicable NSPS expected? ..... Yes  
Subparts A, Db and J

§116.711(5) Compliance with applicable NESHAPS expected? ..... Yes  
Subparts A and FF

§116.711(6) Compliance with applicable MACT standards expected? ..... Yes  
Subparts A, F, G, DDDDD and UUU

§116.711(8) Is nonattainment review required? ..... No

A. Is the site located in a nonattainment area? ..... No

B. Is the site a federal major source for a nonattainment pollutant? ..... NA

C. Is the project a federal major source for a nonattainment pollutant by itself? ..... NA

§116.111(2)(I) Is PSD applicable? ..... No

A. Is the site a federal major source (100/250 tons/yr)? ..... Yes

B. Is the project a federal major source by itself? ..... No

C. Is the project a federal major modification? ..... No

1. Did project emission increases, without decreases, for pollutant of concern, minus the two-year

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

- average actual emissions trigger netting? ..... No  
2. Was contemporaneous increase significant? ..... NA

### Mass Cap and Trade Applicability

- §116.711(12) Is Mass Cap and Trade applicable? ..... NA  
Did the proposed facility, group of facilities, or account obtain allowances to operate? ..... NA

### Permit Fee

- §116.750 Permit Fee: \$ 4,406 Fee certification provided? ..... Yes

### Title V Applicability

- §122.10(13)(A) Is the site a major source under FCAA Section 112(b)? ..... Yes  
A. The site emits 10 tons or more of any single HAP? ..... Yes  
B. The site emits 25 tons or more of a combination ..... Yes  
§122.10(13)(C) Does the site emit 100 tons or more of any air pollutant? ..... Yes  
§122.10(13)(D) Is the site a non-attainment major source? ..... No

### Request for Comments

Region: 14

Reviewed by: Joe Montaya and David Hill, No objections,  
after incorporating their comments into the  
permit

### Process Description

This permit covers the West Refinery. The refinery receives purchased and refinery feeds and "cracks" them into gasoline, distillate and lighter products. This project involves rolling-in several standard permits and a PBR into the permit and authorization of NH<sub>3</sub> emissions from SNCR on EPN AA-4.

FCCU CO Boiler (EPN AA-4) combusts primarily vent stream containing a high concentration of CO coming from the West FCCU catalyst regeneration process. Burning the CO vent stream in the FCCU CO Boiler while generating steam for the process is considered as a CO abatement and a good recycling technique. According to FHR, the destruction of CO within the boiler combustion zone is not uniform, thereby creating pockets of variable CO concentration. The SNCR process involves the injection of ammonia into the combustion zone of the boiler to convert NO<sub>x</sub> to nitrogen gas, thereby minimizing the NO<sub>x</sub> emissions. According to the FHR, more ammonia needs to be injected to the pockets of higher CO concentrations. As a result of higher levels of ammonia injections, although NO<sub>x</sub> emissions decrease, ammonia emissions from the boiler increase due to the escape of unreacted ammonia in the flue gas. This is commonly referred to as ammonia slip in the industry. FCCU Boiler operates with a downstream scrubber to minimize the ammonia slip.

### Sources, Controls, Source Reduction and BACT [116.711(3)]

There are no proposed physical or operational changes to the existing heaters, the API separator flare or FCCU CO Boiler/Scrubber. The controls on these existing sources are not required by the current flexible permit conditions. They were rather required to comply with the EPA Consent Decree entered on April 25, 2001 with EPA and the Department of Justice.

Those controls entered in the consent decree were authorized through the following standard permits and a PBR:

#### Standard (Std) Permit No. 74076 dated November 10, 2004:

This std permit authorized installation of a floating roof on Tank 08FB17 (EPN FB17). This standard permit authorization updated the Tanks 08FB17 emissions to 0.1 lb/hr and 0.03 tpy VOC. The presence of floating roof and mechanical shoe seal satisfies the BACT for this tank. The required floating roof has been installed and operational. This standard permit is rolled-into the flexible permit.

#### Permit by Rule (PBR) Registration No. 75266 dated April 14, 2005:

This PBR was used to authorize storage of the new chemical; Udex Reformate, in the floating roof Tank 08FB17, in addition to the storage of existing authorized chemicals. This PBR authorization updated the Tank 08FB17 emissions to 0.33 lb/hr and 0.65 tpy VOC.

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

Tank 4.09 program was used to update the VOC emissions from this tank. This tank continues to meet the BACT since it has a floating roof tank and mechanical shoe seal. The installation of the floating roof has been completed on Tank 08FB17 and UDEX reformate is currently being stored in the tank. FHR did not increase the cap contribution of Tank 08FB17. Listing of individual emission limits on MAERT is not required for this tank since emissions from it are under the emission caps.

Std Permit No. 76446 dated August 18, 2005:

This Std permit authorized the installation of a Selective Noncatalytic Reduction (SNCR) system for the existing FCCU CO Boiler (280 MMBtu/hr, LHV) (EPN AA-4) to reduce the NOx emissions from the CO Boiler/Scrubber facility. This standard permit's authorized emissions are as follows:

EPN	Facility or Source Name	Air Contaminant	Emission Rates	
			lb/hr	TPY
01	FCCU Fugitives	NH <sub>3</sub>	0.05	0.21
		H <sub>2</sub>	0.68	2.99
AA-4	FCCU CO Boiler Scrubber	NH <sub>3</sub>	11.9	31.2
		NOx	639.3	358.4
		CO	391.2	856.8
		SO <sub>2</sub>	404.3	177.1
		PM	63.5	256.9
		VOC	1.8	8.0

The heat specific NOx emission rate proposed to authorize the SNCR in this std permit is 70 ppmv. According to the Consent Decree dated April 25, 2001, FHR will operate the SNCR for 18 months for data collection, and additional 6 months for data evaluation to determine the final NOx emissions from this source. This requirement is placed in SC. 76 of the draft permit. In addition to NOx testing, 18 months NH<sub>3</sub> testing requirement and final evaluation for NH<sub>3</sub> is also included in this condition. This condition requires FHR to update the permit levels based on the test results.

FCCU CO Boiler is unique in the sense that it combusts primarily CO gases and ammonia slip levels in the exhaust stack from the boiler may be more variable since ammonia reacts with both CO and NOx. However, it is equipped with a scrubber after the SNCR Unit to minimize the ammonia slip emissions. In both the standard permit and this amendment, FHR proposed the following NH<sub>3</sub> exit concentrations from the CO Boiler/Scrubber: NH<sub>3</sub> (hourly) = 25 ppmvd and NH<sub>3</sub> (annual) = 15 ppmvd. These levels are considered BACT for this unique CO Boiler/Scrubber combination.

Pursuant to the EPA's consent decree, currently, FHR is testing the FCCU Boiler/ Scrubber for NOx emissions. Upon the issuance of this permit amendment, pursuant to the SC. 76 of the draft permit, FHR will continue to test the FCCU Boiler/Scrubber vent stream for NOx and they will also implement ammonia testing. At the end of 18 months testing period and 6 months data evaluation period, FHR will submit a permit alteration or amendment application to revise the NOx and ammonia cap levels in the flexible permit.

Proposed ammonia emissions from the SNCR are evaluated and impacts are found to be acceptable. An ammonia cap is entered on the MAERT accordingly. Since the rest of the pollutants are already under the flexible permit caps, the Std. Permit No. 76446 will be voided upon the approval of this amendment.

Std Permit No. 77459 dated December 8, 2005:

This std permit authorized the installation of a steam injection system to control NOx emissions from the existing No. 2 Parex Hot Oil Heater (266.8 MMBtu/hr, HHV) (EPN N-103). This standard permit's authorized emissions are as follows:

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

<u>EPN</u>	<u>Facility or Source Name</u>	<u>Air Contaminant</u>	<u>Emission Rates</u>	
			<u>lb/hr</u>	<u>TPY</u>
N-103	No.2 Parex Hot Oil Heater	VOC	1.44	6.31
		NOx	12.0	52.60
		CO	22.0	96.40
		SO <sub>2</sub>	8.81	23.20
		PM/PM <sub>10</sub>	1.99	8.72

Installation of steam injection system was already completed and tested. Test results show that NOx emission factor of 0.045 lb/MM Btu (LHV) is met as a result of the installation of steam injection control technology. This level of control is considered BACT for this old heater. Special Condition No. 2 of the draft permit is updated to reduce the maximum heat specific emission factor for NOx to 0.045 lb/MMBtu (HHV). Emission cap for NOx is reduced on MAERT to reflect this new NOx emission factor. In addition, CO, PM/PM<sub>10</sub> and VOC emission rates are updated using the most recent AP-42 emission factors appropriate for the natural gas combustion sources. This resulted in an emission increase for these pollutants and emission caps for CO, PM/PM<sub>10</sub> and VOC on MAERT are adjusted higher to reflect the revised calculations. Listing of individual emission limits on MAERT is not required for this heater since emissions from this heater are under the emission rate caps.

Std. Permit No. 77655 dated January 18, 2006:

This std permit authorized the installation of Ultra Low NOx burners (ULNB) on the West Crude Heaters [FIN 40BA101 (211.4 MMBtu/hr, HHV) and FIN 40BA401 (89 MMBtu/hr, HHV), EPN A-103] to reduce the NOx emission factor to 0.045 lb/MMBtu (HHV). This standard Permit's authorized emissions are as follows:

<u>EPN</u>	<u>FIN No.</u>	<u>Facility or Source Name</u>	<u>Air Contaminant</u>	<u>Emission Rates</u>	
				<u>lb/hr</u>	<u>TPY</u>
A-103	40BA101	West Crude Heater	NOx	9.51	41.70
			CO	17.40	76.30
			SO <sub>2</sub>	6.51	17.10
			PM/PM <sub>10</sub>	1.58	6.91
			VOC	1.14	5.00
40BA401		West Crude Vacuum Heater	NOx	4.01	17.50
			CO	7.33	32.10
			SO <sub>2</sub>	2.74	7.20
			PM/PM <sub>10</sub>	0.66	2.90
			VOC	0.48	2.10

Installation of ULNB on these existing heaters to meet 0.045 lb NOx/MMBtu is considered as the BACT. ULNB on the heaters were installed and tested. Test results show that NOx emission factor of 0.045 lb/MM Btu (HHV) is met. Special Condition No. 2 of the draft permit is updated to include EPN A-103 and the heaters' maximum heat specific emission factors for NOx. In addition, CO, PM/PM<sub>10</sub> and VOC emission rates from the heaters are updated using the most recent AP-42 emission factors for the natural gas combustion sources. This resulted in an emission increase for these pollutants. Listing of individual emission limits on MAERT is not required for these heaters since emissions from these heaters are under the emission rate caps.

Std. Permit No. 79214 dated July 12, 2006:

This std. permit authorized the installation of a Caustic Scrubber after the Monroe API Separator to reduce the sulfur in the waste gas stream routed to the Flare (API Separator Flare, EPN V8). This standard permit's authorized emissions are as follows:

## Source Analysis & Technical Review

Permit No.: 8803A

Regulated Entity No.: RN100235266

EPN	Facility or Source Name	Air Contaminant	Emission Rates	
			lb/hr	TPY
F-WW-MID	Wastewater Fugitives	VOC	0.05	0.24
V8	API Separator Flare	SO2	0.21	0.91
		H <sub>2</sub> S	0.002	0.01

The Caustic Scrubber installation is expected to reduce the H<sub>2</sub>S emissions from 7,500 ppmv to 162 ppmv which is the H<sub>2</sub>S limit specified in NSPS Subpart J. This corresponds to approximately 98% removal of H<sub>2</sub>S by the scrubber. BACT is satisfied. The installation of the Caustic Scrubber has been completed. The waste gas stream leaving the scrubber was tested for H<sub>2</sub>S and meets the NSPS Subpart J limit. Special Condition No. 55 is revised to reflect the monitoring requirements of the scrubber slurry pump. Special Condition No. 4 is revised to reflect the H<sub>2</sub>S limit that must be met. H<sub>2</sub>S emission cap on current MAERT was already based on a high level of control of waste gas from API Separator. Therefore, rolling-in of this Std Permit that authorized installation of the caustic scrubber at approximately 98% control efficiency changed the H<sub>2</sub>S cap insignificantly.

Emissions from the new fugitive components as a result of scrubber installation is represented as a new EPN (EPN F-WW-MID). The new fugitive components will also be monitored by the 28 VHP fugitive monitoring program. This meets the BACT.

Listing of individual emission limits on MAERT is not required for these sources since emissions from these sources are under the emission rate caps.

### Impacts Evaluation

1. Was modeling done? Yes for NH<sub>3</sub> Type? Screen 3
2. Will GLC of any air contaminant cause violation of NAAQS? No
3. Is this a sensitive location with respect to nuisance? No
4. Is the site within 3000 feet of any school? Yes  
Distance of the ammonia emission sources to the High School is greater than 3000 ft.
5. Toxics Evaluation: NH<sub>3</sub> modeling is audited by the modeling team staff and GLCmax is found to be less than 10% of its ESL, therefore, modeling results are accepted.

### Miscellaneous

1. Is applicant in agreement with special conditions? Yes  
Company representative? Curtis Taylor
2. Emission reductions from source reduction or pollution prevention 0
3. Emissions reductions resulting from the application of BACT required by state rules, avoidance of potential impacts problems, and voluntary reductions NOx: -53.87 tpy
4. Other permit(s) affected by this action? Yes  
If Yes, list permit number(s) Std Permit Nos. 74076, 76446, 77459, 77655, 79214 and PBR No. 75266 and actions required or taken : These Std Permits and PBR Registration are rolled-in to the permit and they will be voided upon the issuance of this amendment.

M. Ozden Tamer  
Permit Reviewer

8/28/08  
Date

Team Leader

Date

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## Compliance History

### Regulated Entity

Number: RN100235266

Name: FLINT HILLS RESOURCES CORPUS CHRISTI WEST PLANT

Classification: AVERAGE

Rating: 1.41

Publication Date: 10/12/2007

### Customer

Number: CN600879712

Name: Flint Hills Resources, LP

Classification: AVERAGE

Rating: 3.91

Publication Date: 08/29/2008

Repeat Violator Ind: NO

Compliance History Start: 08/31/2007 End: 09/01/2002 

### Enforcement Actions

Type	Effective Date	Violations		
		Citation/Requirement Provision	Abbv. Description	Classification
ADMINORDER	05/12/2006	30 TAC Chapter 101, SubChapter A 101.20(3) ; 30 TAC Chapter 116, SubChapter G 116.715(a) ; 5C THC Chapter 382, SubChapter A 382.085(b) ; PERMIT Special Condition No. 1	Failure to satisfy all demonstration criteria as described in 30 Tex. Admin. Code § 101.222 and gain an affirmative defense for contaminants released from this emissions event, Incident No. 58502. The regulated entity failed to satisfy the demonstration criteria of 30 TAC § 101.222(b)(1), (2), and (3).	MODERATE
ADMINORDER	08/20/2006	30 TAC Chapter 116, SubChapter G 116.715(a) ; 5C THC Chapter 382, SubChapter A 382.085(b) ; PERMIT Special Condition 1	Failed to prevent the unauthorized release of benzene on October 26, 2004 at the No. 1 Cumene Reactor (Equipment No. 04DA420).	MODERATE
ADMINORDER	05/12/2006	30 TAC Chapter 101, SubChapter F 101.201(b)(7) ; 5C THC Chapter 382, SubChapter A 382.085(b)	Failure to submit to the Region 14 office a final report which included all individually listed compounds which were known to have been released during the emissions event.	MODERATE

### Criminal Convictions

Conviction Date	Number of		Violations		
	Felonies	Misdemeanors	Citation/Requirement Provision	Abbv. Description	Classification

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**Chronic Excessive Emissions Events**

<b>Start Date</b>
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**Investigations**

<b>Date</b>	<b>Type</b>
09/23/2002	Compliance Invest File Review
10/22/2002	Compliance Invest File Review
11/25/2002	Compliance Invest File Review
12/30/2002	Compliance Invest File Review
01/24/2003	Compliance Invest File Review
02/24/2003	Compliance Invest File Review
03/24/2003	Compliance Invest File Review
03/25/2003	Compliance Invest File Review
04/02/2003	Compliance Invest File Review
04/22/2003	Compliance Invest File Review
05/23/2003	Compliance Invest File Review
06/24/2003	Compliance Invest File Review
06/27/2003	Compliance Investigation
07/24/2003	Compliance Invest File Review
08/25/2003	Compliance Investigation
08/25/2003	Compliance Invest File Review
08/25/2003	Compliance Invest File Review
09/23/2003	Compliance Invest File Review
11/24/2003	Compliance Invest File Review
12/17/2003	Compliance Invest File Review

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12/29/2003	Compliance Invest File Review
01/07/2004	Compliance Invest File Review
01/13/2004	Compliance Invest File Review
01/26/2004	Compliance Invest File Review
02/23/2004	Compliance Invest File Review
02/23/2004	Compliance Invest File Review
03/30/2004	Compliance Invest File Review
04/15/2004	Compliance Invest File Review
05/24/2004	Compliance Invest File Review
05/24/2004	Compliance Invest File Review
06/22/2004	Compliance Invest File Review
07/01/2004	Compliance Investigation
07/27/2004	Compliance Invest File Review
08/24/2004	Compliance Invest File Review
08/24/2004	Compliance Invest File Review
08/31/2004	Compliance Investigation
09/23/2004	Compliance Invest File Review
09/24/2004	Compliance Investigation
11/19/2004	Compliance Invest File Review
11/23/2004	Compliance Invest File Review
11/23/2004	Compliance Invest File Review
12/06/2004	Compliance Invest File Review
12/17/2004	Compliance Invest File Review
01/11/2005	Compliance Invest File Review

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01/14/2005	Compliance Invest File Review
02/17/2005	Compliance Invest File Review
02/17/2005	Compliance Investigation
02/22/2005	Compliance Invest File Review
02/28/2005	Compliance Invest File Review
02/28/2005	Compliance Invest File Review
03/04/2005	Compliance Invest File Review
03/04/2005	Compliance Invest File Review
03/21/2005	Compliance Invest File Review
03/21/2005	Compliance Invest File Review
03/22/2005	Compliance Invest File Review
03/22/2005	Compliance Invest File Review
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08/19/2005	Compliance Invest File Review
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08/26/2005	Compliance Invest File Review
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08/31/2005	Compliance Invest File Review
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11/09/2005	Compliance Investigation
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11/30/2005	Compliance Invest File Review
12/13/2005	Compliance Invest File Review
12/14/2005	Compliance Invest File Review
12/14/2005	Compliance Investigation
12/21/2005	Compliance Invest File Review
02/12/2006	Compliance Invest File Review
02/21/2006	Compliance Invest File Review
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05/18/2006	Compliance Investigation
05/22/2006	Compliance Invest File Review

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05/22/2006	Compliance Invest File Review
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07/21/2006	Compliance Invest File Review
08/21/2006	Compliance Invest File Review
08/21/2006	Compliance Invest File Review
08/22/2006	Compliance Investigation
08/23/2006	Compliance Invest File Review
08/30/2006	Compliance Invest File Review
08/30/2006	Compliance Invest File Review
09/15/2006	Compliance Invest File Review
09/25/2006	Compliance Invest File Review
09/29/2006	Compliance Invest File Review
10/16/2006	Compliance Invest File Review
10/24/2006	Compliance Invest File Review
10/25/2006	Compliance Invest File Review
10/26/2006	Compliance Invest File Review
11/27/2006	Compliance Invest File Review
12/06/2006	Compliance Invest File Review
12/27/2006	Compliance Invest File Review
01/04/2007	Compliance Invest File Review
01/22/2007	Compliance Invest File Review
01/24/2007	Compliance Invest File Review
01/29/2007	Compliance Invest File Review
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02/16/2007	Compliance Invest File Review
02/22/2007	Compliance Invest File Review
03/15/2007	Compliance Invest File Review
03/23/2007	Compliance Invest File Review
04/05/2007	Compliance Invest File Review
04/10/2007	Compliance Invest File Review
04/13/2007	Compliance Invest File Review
04/23/2007	Compliance Invest File Review
05/09/2007	Compliance Invest File Review
05/18/2007	Compliance Invest File Review
05/18/2007	Compliance Invest File Review
05/18/2007	Compliance Invest File Review
05/23/2007	Compliance Invest File Review
05/29/2007	Compliance Invest File Review
06/04/2007	Compliance Invest File Review
06/25/2007	Compliance Invest File Review
06/25/2007	Compliance Invest File Review
07/13/2007	Compliance Invest File Review
07/16/2007	Compliance Invest File Review
07/17/2007	Compliance Invest File Review
07/20/2007	Compliance Invest File Review
08/01/2007	Compliance Invest File Review
08/08/2007	Compliance Invest File Review
08/20/2007	Compliance Investigation

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08/21/2007	Compliance Investigation
08/22/2007	Compliance Invest File Review
08/24/2007	Compliance Invest File Review

### Notices of Violation

Date	Status	Citation/Requirement Provision	Abbv. Description	Classification	Self Reported
06/27/2003	RESOLVED	30 TAC Chapter 307 307.4(b)(7) ; PERMIT WQ0000531-000	Failure to prevent unpermitted wastewaters from discharging through permitted Outfall 004.	MINOR	NO
02/29/2004	ACTIVE	TWC Chapter 26 26.121(a) ; 30 TAC Chapter 305, SubChapter F 305.125(1)	Failure to meet the limit for one or more permit parameter	MODERATE	YES
03/30/2004	ACTIVE	30 TAC Chapter 305, SubChapter F 305.125(1) ; 30 TAC Chapter 305, SubChapter F 305.125(17)	NON-RPT VIOS FOR MONIT PER OR PIPE	MODERATE	NO
01/11/2005	RESOLVED	30 TAC Chapter 111, SubChapter A 111.111(a)(1)(G) ; 30 TAC Chapter 116, SubChapter B 116.115(c)(1) ; PA Special Condition 1	Failure to comply with the visible emission requirements for stationary vents, and to meet the demonstration requirements of 30 TAC § 101.222(b) or obtain regulatory authority for contaminants released from the WFCCU Bypass Stack.	MODERATE	NO
02/10/2005	RESOLVED	40 CFR Chapter 270, SubChapter I, PT 270, SubPT C 270.30(a) ; IHWPERMTCP CP-50097 §III.E. & Attach. B No. 11 ; OP HW-50097-000 Permit Provision II.A. ; OP HW-50097-000 P.P.VI. B. & Attach. F	FHR West failed to follow the Field Plan as required by the permit	MODERATE	NO
09/30/2004	ACTIVE	TWC Chapter 26 26.121(a) ; 30 TAC Chapter 305, SubChapter F 305.125(1)	Failure to meet the limit for one or more permit parameter	MODERATE	YES
01/31/2005	ACTIVE	TWC Chapter 26 26.121(a) ; 30 TAC Chapter 305, SubChapter F 305.125(1)	Failure to meet the limit for one or more permit parameter	MODERATE	YES
08/22/2006	RESOLVED	2D TWC Chapter 26, SubChapter A 26.121 ; PERMIT Permit Conditions No. 2(g), Pg. 7	Failure to prevent the discharge of wastewater or any other waste.	MINOR	NO
09/30/2006	ACTIVE	TWC Chapter 26 26.121(a) ; 30 TAC Chapter 305, SubChapter F 305.125(1)	Failure to meet the limit for one or more permit parameter	MODERATE	YES
		2D TWC Chapter 26, SubChapter A	Failure to meet the limit		

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07/31/2007	ACTIVE	26.121(a) ; 30 TAC Chapter 305, SubChapter F 305.125(1)	for one or more permit parameter	MODERATE	YES
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### Environmental Audits

Notice of Audit Date	Disclosure Of Violation			
	DOV Date	Violations		
		Classification	Citation/Requirement Provision	Abbv. Description
08/03/2007				
10/03/2002	12/16/2002	MINOR	30 TAC Chapter 101, SubChapter A 101.6 ; 30 TAC Chapter 101, SubChapter A 101.7	Failed to properly report start-up and shut-down events.
10/03/2002	12/16/2002	MINOR	30 TAC Chapter 115, SubChapter D 115.324 (2)(B) ; PERMIT 8803A and 6308 ; PERMIT PSD-TX-413M6 and PSD-TX-137MI	Failed to monitor petroleum refinery fugitive emissions with the required frequency.
07/10/2006				

### Environmental Management Systems

Type	Tier	Date of Certification	Implementation Date
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### Voluntary On-Site Compliance Assessments

Date
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### Voluntary Pollution Reduction Programs

Name	Level	Start Date of Participation
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### Early Compliance

Date	Description
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# Texas Commission On Environmental Quality

## INTEROFFICE MEMORANDUM

To: Ozden Tamer, P.E., PhD  
Chemical Section

Date: February 5, 2007

Thru: Robert Opiela, Team Leader  
Air Dispersion Modeling Team (ADMT) *TDO 2/5/07*

From: Keith Zimmermann, P.E. *KZ*  
ADMT

Subject: Modeling Audit – Flint Hills Resources, LP (RN100235266)

### 1.0 Project Identification Information.

Permit Application Number: 8803A  
NSR Project Number: 124129  
ADMT Project Number: 2515  
NSRP Document Number: 339935  
County: Nueces

Modeling Report: Submitted by Waid and Associates, January 2007, on behalf of Flint Hills Resources, LP.

### 2.0 Report Summary. The modeling analysis is acceptable for all review types and pollutants. The results are summarized below.

The distance from the property line to the GLCmax is approximately 800 meters. The consultant did not provide a GLCni distance. Therefore, the GLCmax was used as the GLCni.

Table 1: Project-Related Modeling Results for Health Effects			
Pollutant & CAS#	Averaging Time	GLCmax (µg/m <sup>3</sup> )	10% ESL (µg/m <sup>3</sup> )
Ammonia (7664-41-7)	1-hr	15	17

- 3.0 Land Use. Rural dispersion coefficients and flat terrain were used in the modeling analysis. These selections are consistent with the topographic maps and aerial photography. Urban dispersion coefficients were tested by ADMT and the results were less than 10% of the ESL.
- 4.0 Modeling Emissions Inventory. The modeled emission point and area source parameters and rates were consistent with the modeling report. The source characterizations used to represent the sources were appropriate.
- 5.0 Building Wake Effects (Downwash). Building downwash was not modeled since there are no structures that would impact the flow of emissions from the 158 foot tall stack.

Ozden Tamer, P.E., PhD

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February 5, 2007

Modeling Audit - Flint Hills Resources, LP

- 6.0 Meteorological Data. The full meteorology option was chosen.
- 7.0 Receptor Grid. The number of receptors and distance from the sources were appropriate.
- 8.0 Model Used and Modeling Techniques. SCREEN3 (Version 96043) was used.