

State Office of Administrative Hearings



Cathleen Parsley
Chief Administrative Law Judge

July 6, 2009

CHIEF CLERKS OFFICE

2009 JUL -6 PM 12:36

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

Les Trobman, General Counsel
Texas Commission on Environmental Quality
PO Box 13087
Austin Texas 78711-3087

Re: **SOAH Docket No. 582-09-0651; TCEQ Docket No. 2008-0293-AIR; In Re: Application by Flint Hills Resources, LP for an Amendment to Air Permit Nos. 8803A AND PSD-TX-413M8 for the West Refinery in Nueces County, Texas**

Dear Mr. Trobman:

The above-referenced matter will be considered by the Texas Commission on Environmental Quality on a date and time to be determined by the Chief Clerk's Office in Room 201S of Building E, 12118 N. Interstate 35, Austin, Texas.

Enclosed are copies of the Proposal for Decision and Order that have been recommended to the Commission for approval. Any party may file exceptions or briefs by filing the original documents with the Chief Clerk of the Texas Commission on Environmental Quality no later than **July 27, 2009**. Any replies to exceptions or briefs must be filed in the same manner no later than **August 6, 2009**.

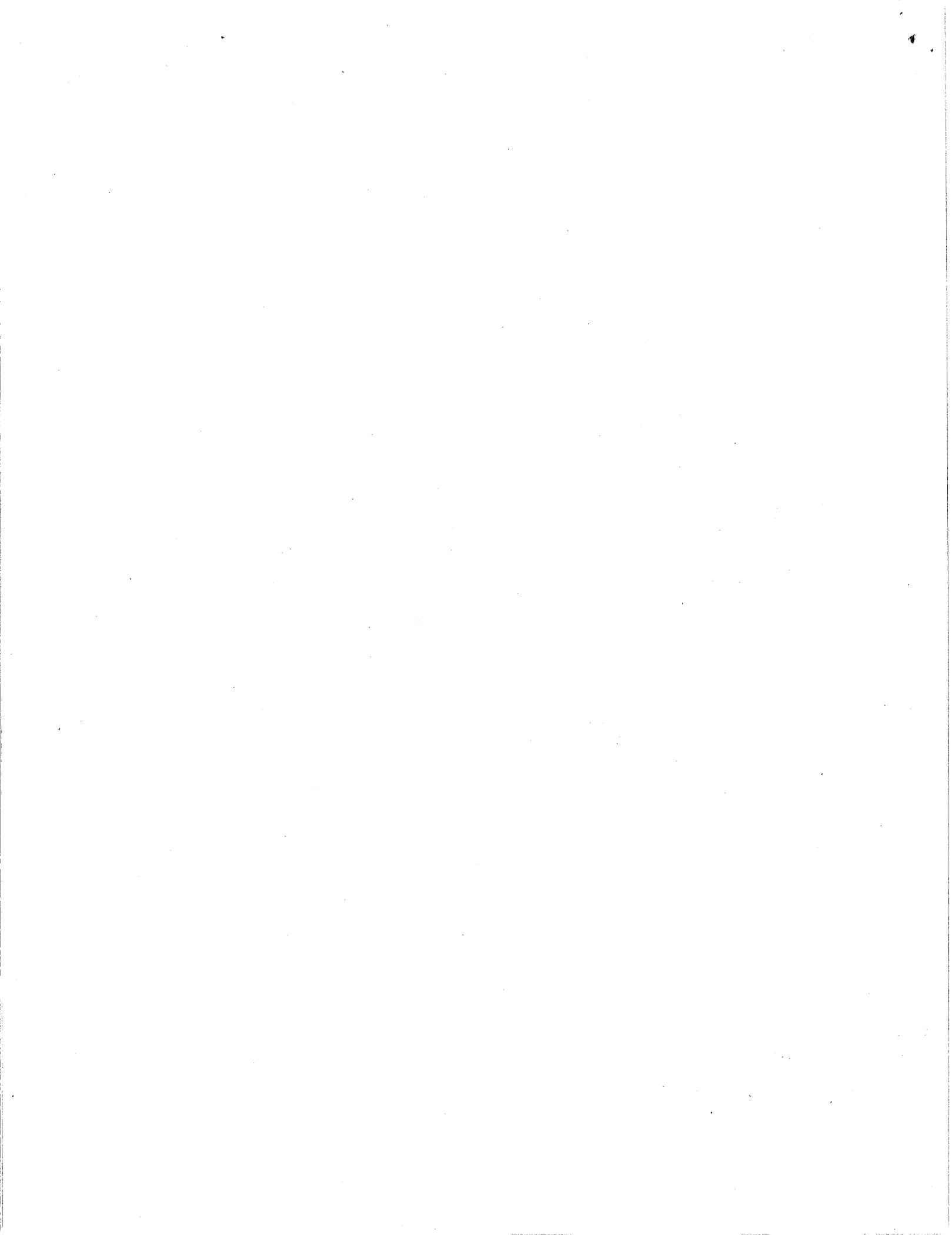
This matter has been designated **TCEQ Docket No. 2008-0293-AIR; SOAH Docket No. 582-09-0651**. All documents to be filed must clearly reference these assigned docket numbers. Copies of all exceptions, briefs and replies must be served promptly on the State Office of Administrative Hearings and all parties. Certification of service to the above parties and an **original and seven copies** shall be furnished to the Chief Clerk of the Commission. Failure to provide copies may be grounds for withholding consideration of the pleadings.

Sincerely,

A handwritten signature in black ink that reads "Thomas H. Walston".

Thomas H. Walston
Administrative Law Judge

THW:nl
Enclosures
cc: Mailing List



STATE OFFICE OF ADMINISTRATIVE HEARINGS

AUSTIN OFFICE

300 West 15th Street Suite 502

Austin, Texas 78701

Phone: (512) 475-4993

Fax: (512) 475-4994

SERVICE LIST

AGENCY: Environmental Quality, Texas Commission on (TCEQ)
STYLE/CASE: FLINT HILLS RESOURCES, LP
SOAH DOCKET NUMBER: 582-09-0651
REFERRING AGENCY CASE: 2008-0293-AIR

CHIEF CLERKS OFFICE
2009 JUL -6 PM 12:36
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

STATE OFFICE OF ADMINISTRATIVE HEARINGS ADMINISTRATIVE LAW JUDGE
ALJ THOMAS H. WALSTON

REPRESENTATIVE / ADDRESS PARTIES

DOCKET CLERK
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
OFFICE OF THE CHIEF CLERK
PO BOX 13087
AUSTIN, TX 78711
(512) 239-3300 (PH)
(512) 239-3311 (FAX)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

GARRETT ARTHUR
STAFF ATTORNEY
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
OFFICE OF PUBLIC INTEREST COUNSEL
MC-175 P.O. BOX 13087
AUSTIN, TX 78711-3087
(512) 239-5757 (PH)
(512) 239-6377 (FAX)
garthur@tceq.state.tx.us

OFFICE OF PUBLIC INTEREST COUNSEL

PATRICK LEE
VINSON & ELKINS
THE TERRACE 7, 2801 VIA FORTUNA, STE. 100
AUSTIN, TX 78746-7568
(512) 542-8629 (PH)
(512) 236-3265 (FAX)

FLINT HILLS RESOURCES, LP

ENRIQUE VALDIVIA
ATTORNEY AT LAW
TEXAS RIO GRANDE LEGAL AID
1111 NORTH MAIN STREET
SAN ANTONIO, TX 78212
(210) 212-3700 (PH)
(210) 212-3772 (FAX)
evaldivia@trla.org

CITIZENS FOR ENVIRONMENTAL JUSTICE (CFEJ)

ERIN SELVERA
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
MC-173 P.O. BOX 13087
AUSTIN, TX 78711-3087
(512) 239-6033 (PH)
(512) 239-0606 (FAX)
eselvera@tceq.state.tx.us

EXECUTIVE DIRECTOR

CHRISTOPHER C. THIELE
VINSON & ELKINS
2801 VIA FORTUNA, STE. 100
AUSTIN, TX 78746
(512) 542-8632 (PH)
(512) 236-3283 (FAX)
cthiele@velaw.com

FLINT HILLS RESOURCES, LP

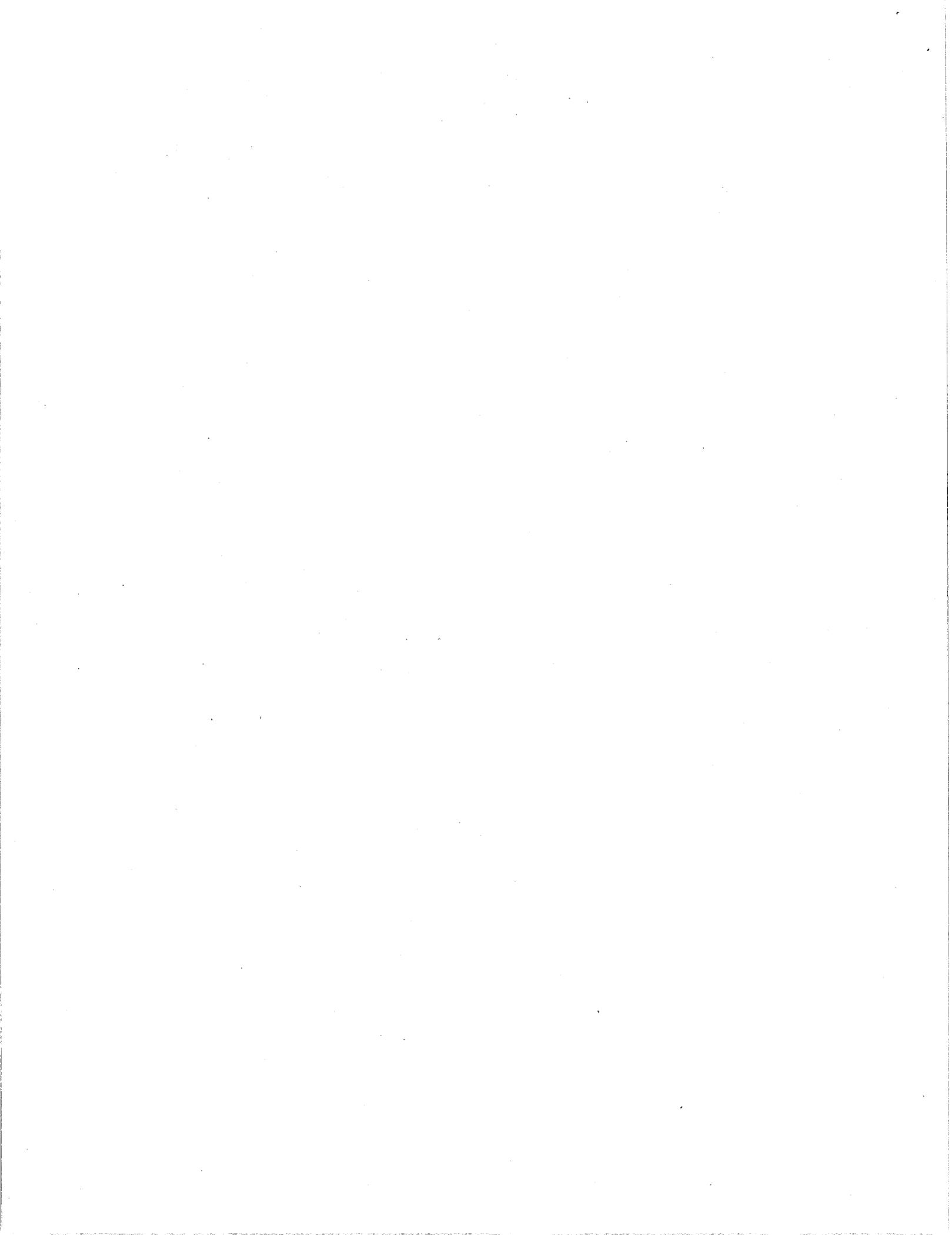
xc: Docket Clerk, State Office of Administrative Hearings

SOAH DOCKET NO. 582-09-0651
TCEQ DOCKET NO. 2008-0293-AIR

APPLICATION OF FLINT HILLS	§	BEFORE THE STATE OFFICE
RESOURCES, L.P. FOR AN	§	
AMENDMENT TO AIR QUALITY	§	
PERMIT NUMBERS 8803A AND PSD-	§	OF
TX-413M8 FOR THE WEST REFINERY	§	
IN NUECES COUNTY, TEXAS	§	ADMINISTRATIVE HEARINGS

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	PARTIES AND PROCEDURAL HISTORY	2
III.	BACKGROUND / OVERVIEW	3
IV.	DISCUSSION	7
	A. FHR's Use of Updated AP-42 Emission Factors With Regard to the Changes Requested in the Amendment Application or the Changes in the Proposed Special Conditions and MAERT	7
	B. FHR's Calculation of Short-Term Ammonia Cap Contributions for Piping and Other Fugitive Components Associated With the SNCR System Installed at the FCCU CO Boiler	20
	C. Whether the monitoring requirements that are proposed for change in the amendment application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.....	26
	D. Revision of Draft Permit Special Condition No. 3 to Require a Reference to Quantification of PM Emissions Whenever Visible Emissions Occur, Except for Periods of Startup and Shutdown.	30
	E. Revision of Draft Permit Special Condition No. 4 to Delete the Authorization of 100% Natural Gas Firing in the Heaters or Revision of the Heater Emission Rate Calculations for Cap Contributions to Include 100% Natural Gas Firing.	32
	F. Allocation of Transcript Costs.....	34
V.	CONCLUSION	35



SOAH DOCKET NO. 582-09-0651
TCEQ DOCKET NO. 2008-0293-AIR

APPLICATION OF FLINT HILLS § BEFORE THE STATE OFFICE
RESOURCES, L.P. FOR AN §
AMENDMENT TO AIR QUALITY §
PERMIT NUMBERS 8803A AND PSD- § OF
TX-413M8 FOR THE WEST REFINERY §
IN NUECES COUNTY, TEXAS § ADMINISTRATIVE HEARINGS

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY
2009 JUL -6 PM 12:36
CHIEF CLERK'S OFFICE

PROPOSAL FOR DECISION

I. INTRODUCTION

Flint Hills Resources, LP (FHR or Applicant) has applied for an amendment of Flexible Permit No. 8803A/PSD-TX-413M8 for its West Refinery located in Corpus Christi, Nueces County, Texas. FHR seeks authorization to incorporate four existing standard permit authorizations and one existing permit by rule registration into the flexible permit. FHR also seeks reauthorization of ammonia emissions from the selective non-catalytic reduction (SNCR) installation on the fluid catalytic cracking unit (FCCU) boiler/scrubber and the voidance of Standard Permit 76446. In addition, an ammonia cap will be added to the Maximum Allowable Emission Rate Table (MAERT) of the flexible permit. No physical or operational changes will occur as a result of the amendment because the construction and operation of these units is currently authorized under the existing permits.

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ/Commission) approved FHR's application and prepared a draft permit which, if approved, will authorize FHR to incorporate the existing permits into the flexible permit, as requested. After considering hearing requests, the Commission issued an Interim Order on September 26, 2008, referring the matter to the State Office of Administrative Hearings (SOAH) with instructions to consider the party status of Citizens for Environmental Justice (CFEJ), and if CFEJ established party status, to hold a hearing to consider the following two issues:

1. Whether FHR's use of emission factors with regard to the changes requested in the amendment application or the changes in the proposed Special

Conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits; and

2. Whether the monitoring requirements that are proposed for change in the amendment application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.

CFEJ established its party status, so the matter proceeded to an evidentiary hearing to consider the two issues referred by the Commission. CFEJ opposed the application, while the ED and the Office of Public Interest Counsel (OPIC) recommended approval. With respect to the issues referred by the Commission to SOAH for hearing, the Administrative Law Judge (ALJ) finds that FHR's use of emissions factors is adequate to assure compliance with all related applicable requirements and limits, and the monitoring requirements that are proposed for change are sufficient to determine compliance with the permit limits.

II. PARTIES AND PROCEDURAL HISTORY

The following were designated as parties:

Party	Representative
Flint Hills Resources, LP, applicant	Chris Thiele and Patrick Lee, attorneys
The Executive Director of the TCEQ	Erin Selvera, staff attorney
Citizens for Environmental Justice, protestant	Enrique Valdivia, attorney
Office of Public Interest Counsel	Garrett Arthur, staff attorney

The procedural history of this case is summarized as follows:

- August 9, 2006 FHR filed an application with TCEQ for an amendment to Flexible Permit No. 8803A/PSD-TX-413M8.
- August 15, 2006 ED declared FHR's application administratively complete.

February 5, 2007 ED declared FHR's application administratively complete a second time after an amendment by FHR.

May 25, 2007 ED declared FHR's application technically complete.

June 1, 2007 TCEQ Staff issued a Technical Summary and the ED's Preliminary Decision approving the application.

July 2, 2007 Comment period for the application closed.

January 11, 2008 ED issued written responses to public comment.

September 26, 2008 The Commission issued an Interim Order to refer the case to SOAH for a preliminary hearing concerning party status and for a contested case hearing if CFEJ established party status. The Interim Order also established a six-month deadline from the date of the preliminary hearing.

November 12, 2008 TCEQ Chief Clerk issued a notice of preliminary hearing for January 6, 2009.

January 6, 2009 Preliminary hearing held in Corpus Christi.

February 2, 2009 SOAH Order No. 2 granted CFEJ party status and established a procedural schedule leading to a hearing on the merits on April 7, 2009.

April 7-8, 2009 Hearing on the Merits held in Austin.

May 12, 2009 Parties filed Closing Briefs.

June 2, 2009 Parties filed Replies to Closing Briefs and the record closed.

III. BACKGROUND / OVERVIEW

FHR operates a large refinery in Corpus Christi known as the West Refinery. The refinery receives purchased feeds and refinery feeds and cracks them into gasoline, distillate, and lighter products. The existing flexible permit, issued pursuant to 30 TEX. ADMIN. CODE (TAC) Ch. 116, subchapter G, establishes overall emission caps for various air contaminants, such as nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), and particulate matter/particulate matter less than 10 microns diameter (PM/PM₁₀). The facility's flexible-permit emission cap for each contaminant equals the sum of the emission-cap contributions

for each contaminant from the different sources at the facility covered by the flexible permit.¹ In other words, the cap contributions from each source of a particular contaminant are added together to establish the facility's overall flexible-permit emission cap for that contaminant. It is important to note, however, that an emission-cap contribution from a specific source is not an emission limit for that source.² Instead, under the flexible permit rules, FHR is allowed to make certain physical and operational changes and exceed a source-specific cap contribution without needing a permit amendment, provided that the facility's overall emission caps are not exceeded.³

In this case, FHR does not seek authorization to construct or expand a source of air emissions or to make other changes that would affect the amount or type of its authorized emissions.⁴ Rather, it only requests permission to incorporate into the existing flexible permit certain other existing authorizations for pollution control and other projects that have been completed and are currently operating at the West Refinery.⁵ Specifically, FHR has requested a permit amendment to roll into the flexible permit the following standard permits and permit by rule (PBR):

- **Standard Permit No. 74076** (dated November 10, 2004) authorized installation of a floating roof on Tank 08FB17 and updated the VOC emissions to 0.1 pounds per hour (lb/hr) and 0.03 tons per year (ton/yr). The required floating roof has been installed, is operational, and satisfies Best Available Control Technology (BACT) for this tank.

- **PBR Registration No. 75266** (dated April 14, 2005) authorized Tank 08FB17 to store UDEX Reformate in addition to the storage of existing authorized chemicals. This PBR

¹ FHR Ex. 11, Kirchner direct, at 10.

² Tr at 19-20, 27, 281, 320.

³ 30 TAC §§ 116.718, 116.721(c).

⁴ FHR Ex. 1, Taylor direct at 10.

⁵ *Id.* FHR filed this application to comply with the terms of a 2001 United States Environmental Protective Agency (EPA) consent decree, which required the authorization for certain of the previously authorized pollution control projects to be consolidated into the flexible permit. *Id.* at 21-22.

authorization updated the Tank 08FB17 emissions to 0.33 lb/hr and 0.65 ton/yr VOC. This tank continues to meet BACT because it has a floating roof and mechanical shoe seal. The installation of the floating roof has been completed and UDEX Reformate has been stored in the tank. FHR did not increase the cap contribution for this tank, and listing the individual emission limits on the MAERT was not required because the emissions from this tank are under the emissions rate caps.

- **Standard Permit No. 77459** (dated December 8, 2005) authorized installation of a Steam Injection System (SIS) to control NO_x emissions from the existing No. 2 Parex Heater. The SIS has been installed and tested. Test results show that the NO_x emission factor of 0.045 lb/MM Btu (LHV) is met as a result of the installed SIS technology, which is considered BACT for this heater. Special Condition No. 2 of the draft permit was updated to reduce the maximum heat specific emission factor for NO_x to 0.045 lb/MMBtu (HHV), and the emission cap for NO_x was reduced on the MAERT to reflect this new NO_x emission factor. In addition, CO, PM/PM₁₀ and VOC emission rates were updated using the most recent AP-42 emission factors. The updating of the AP-42 emission factors resulted in an upward adjustment for the emission caps for CO, PM/PM₁₀, and VOC on the MAERT to reflect the revised calculations. However, listing of the individual emission limits on the MAERT was not required because the emissions are under the emissions rate caps.

- **Standard Permit No. 77655** (dated January 18, 2006) authorized installation of Ultra Low NO_x Burners on the two West Crude Heaters to reduce the NO_x emission factor to 0.045 lb/MMBtu (HHV). Installation of the Ultra Low NO_x burners on these Heaters to meet this emission factor is considered BACT. The Ultra Low NO_x burners have been installed and tested, and test results show that the NO_x emission factor of 0.045 lb/MMBtu (HHV) is met. In addition, CO, PM/PM₁₀ and VOC emission rates were updated using the most recent AP-42 emission factors. The updating of the AP-42 emission factors resulted in an upward adjustment for the emission caps for CO, PM/PM₁₀, and VOC on the MAERT to reflect the

revised calculations. However, listing of the individual emission limits on the MAERT was not required because the emissions are under the emissions rate caps.

- **Standard Permit No. 79214** (dated July 12, 2006) authorized installation of a Caustic Scrubber after the Monroe API Separator to reduce the sulfur in the waste gas stream routed to the API Separator Flare. This installation was designed to reduce the hydrogen sulfide (H₂S) emissions from 7,500 ppmv to 162 ppmv, which is the H₂S limit specified in New Source Performance Standards (NSPS), Subpart J. This equals approximately 98% removal of H₂S by scrubbing and is considered BACT. The installation of the Caustic Scrubber has been completed and testing of the waste stream showed that H₂S emissions meet the NSPS Subpart J limit. The H₂S emission cap on the current MAERT is based on a high level of control of waste gas from the API Separator, so rolling in this Standard Permit that authorized installation of the caustic scrubber at approximately 98% control efficiency changed the H₂S cap insignificantly. Emissions from the new fugitive components as a result of the scrubber installation will be monitored by the 28 VHP fugitive monitoring program, which meets BACT. Listing of the individual emission limits on the MAERT was not required for the caustic scrubber because the emissions are under the emissions rate caps.

Thus, FHR's proposed consolidation of these permits into the flexible permit involves three heaters, one boiler, one flare, one tank, and the addition of a relatively minor amount of new piping, connectors, valves, and other components associated with the installation of the SNCR system and caustic scrubber.

As mentioned, FHR also proposes to update some emissions rate calculations for these sources using the most recent AP-42 emission factors.⁶ Specifically, FHR recalculated the CO, PM, and VOC emission rate cap contributions for the West Crude Heaters and the No. 2 Parex Hot Oil

⁶ FHR Ex. 1, Taylor direct at 22.

Heater to reflect updated AP-42 emission factors.⁷ These updates would increase the West Refinery's CO, PM, and ton/yr VOC flexible permit emission caps,⁸ although, as mentioned previously, no operational changes or actual emissions increases would occur as a result of the permit amendment.⁹

FHR's Application also includes a new ammonia emission rate cap contribution for the FCCU CO Boiler/Scrubber, because operation of the newly installed SNCR pollution control system resulted in new potential emissions of ammonia. To reduce NOx emissions in the flue gas, the SNCR process injects aqueous ammonia directly into the combustion area of the FCCU CO Boiler/Scrubber. A potential side effect associated with the SNCR system is the emission of ammonia into the atmosphere, a phenomenon called "ammonia slip." In addition FHR proposes a new fugitives ammonia cap contribution because the operation of the newly installed SNCR could result in a small amount of fugitive ammonia emissions from the piping, connectors, valves, and other components associated with the SNCR system (the FCCU Fugitives). The ammonia cap contributions from the FCCU Fugitives represent less than 1% of the total ammonia cap.

IV. DISCUSSION

A. **FHR's Use of Updated AP-42 Emission Factors With Regard to the Changes Requested in the Amendment Application or the Changes in the Proposed Special Conditions and MAERT**

When FHR originally calculated cap contributions for emissions of CO, PM/PM10, and VOC from the West Crude Heaters and the No. 2 Parex Hot Oil Heater (collectively, the Heaters), it used emission factors from EPA publication AP-42, Section 1.4, related to natural gas fired external

⁷ FHR Ex. 11, Kirchner direct at 11-12.

⁸ FHR Ex. 12, summary of emission rate cap changes.

⁹ FHR has also requested that Standard Permit No. 76446 be voided. This permit authorized installation of an SNCR on the FCCU CO Boiler/Scrubber. FHR and the TCEQ permit reviewer determined that obtaining a permit for a control technology for a source that is already under the flexible permit was a mistake and should be voided.

combustion sources.¹⁰ AP-42 emission factors were developed to provide a realistic estimate of the quantity of a pollutant released into the atmosphere as a result of various activities. These factors are extensively used by industry and consulting firms to prepare permit applications, and they are commonly accepted by air permitting authorities such as the TCEQ.¹¹

In 1998, the EPA updated the AP-42 emission factors in Section 1.4 to incorporate new data on emissions from gas-fired combustion devices. Therefore, FHR has recalculated the CO, PM/PM10, and VOC cap contributions for the Heaters based on the updated AP-42 emission factors.¹² FHR emphasizes that the authorizations for some of the heater pollution control devices being rolled in to the facility's flexible permit apply to projects that reduced NOx emissions but had no appreciable effect on CO, PM/PM10, or VOC emissions. Therefore, FHR states, no changes to the Heaters are proposed that would affect the actual emissions of these pollutants,¹³ and the respective calculated cap contributions are being revised only to reflect the 1998 AP-42 updates.¹⁴

Carbon Monoxide (CO): FHR's recalculated emissions caps for CO based on the updated AP-42 emission rate factors produced the following revisions:¹⁵

CO Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	11.66 lb/hr	51.01 ton/yr	23.98 lb/hr	105.08 ton/yr
Crude Charge Heater	9.22 lb/hr	40.44 ton/yr	18.97 lb/hr	83.17 ton/yr

¹⁰ FHR Ex. 11, Kirchner direct at 11-12, 15-17. FHR used values contained in Tables 1.4-1 and 1.4-2. *Id.* at 15.

¹¹ FHR Ex. 11, Kirchner direct at 16, 17, 18; FHR Ex. 18, Olson direct at 8; Tr. 19, 32, 44, 64, 66, 265, 266-67.

¹² FHR Ex. 11, Kirchner direct at 11, 18.

¹³ FHR Ex. 1, Taylor direct at 12-13, 14.

¹⁴ FHR notes that the West Crude heaters and the No. 2 Parex Hot Oil Heater are each subject to a 0.045 lb/MMBtu NOx limit, but CFEJ has not contested FHR's compliance with these limits.

¹⁵ FHR Ex. 12, Summary of Emission Rate Cap Changes.

Crude Vacuum Heater	5.92 lb/hr	25.94 ton/yr	7.99 lb/hr	34.99 ton/yr
---------------------	------------	--------------	------------	--------------

As noted previously, these heater CO cap contributions are not emission limits for the Heaters but are calculated emission rates that are added into the facility CO cap for all sources at the site. FHR adds that the flexible permit's CO emissions cap for the entire facility is 912.63 lb/hr and 2,747.94 ton/yr, so the emissions caps for the three Heaters represent only about 8.1% of the facility's CO cap.¹⁶ In addition, stack tests performed after the installation of low-NOx burners on the two West Crude Heaters and the installation of a steam injection system on the No. 2 Parex Hot Oil Heater showed that CO emissions from the Heaters were below the newly calculated CO emission rate caps for the Heaters.¹⁷ FHR also monitors CO emissions from the Heaters using a continuous emission monitoring system (CEMS), and CEMS data from 2007 and 2008 show that CO emissions from the Heaters are consistently below the calculated emission rate cap contributions.¹⁸ Thus, FHR states that the CEMS data from the stack test data show that the AP-42 factors are appropriate, conservative estimates of CO emissions from the Heaters.¹⁹

Particulate Matter (PM/PM10): FHR's recalculated emissions caps for PM/PM10 based on the updated AP-42 emission rate factors produced the following revisions:²⁰

¹⁶ FHR Ex. 8, Draft Permit (Apr. 18, 2007) at 55.

¹⁷ Tr. 281-282.

¹⁸ FHR Ex. 1, Taylor direct at 23, 27-29; FHR Exs. 3 and 4, 2007 and 2008 CEMS data.

¹⁹ FHR Closing Argument at 8-10.

²⁰ FHR Ex. 12, Summary of Emission Rate Cap Changes.

PM/PM10 Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	1.46 lb/hr	6.38 ton/yr	2.17 lb/hr	9.50 ton/yr
Crude Charge Heater	1.16 lb/hr	5.05 ton/yr	1.72 lb/hr	7.53 ton/yr
Crude Vacuum Heater	1.36 lb/hr	5.95 ton/yr	0.72 lb/hr	3.16 ton/yr

Again, these heater PM/PM10 cap contributions are not emission limits for the Heaters but are calculated emission rates that are added into the facility PM/PM10 cap for all sources at the site. The flexible permit's PM/PM10 emissions cap for the entire facility is 130.91 lb/hr and 548.97 ton/yr, so the emission caps for the three Heaters represent only about 3.7% of the facility's total PM/PM10 cap.²¹

To demonstrate compliance with the facility PM/PM10 permit cap, FHR performs monthly calculations for all sources covered by the flexible permit, using actual operating parameters such as fuel usage. FHR states that these calculations have demonstrated that actual site-wide PM/PM10 emissions are only about half of the permitted cap.²² FHR also assumed maximum firing rates for all heaters at the site when it calculated the cap contributions, even though the heaters never all fire at the maximum rate at the same time. And, as provided in 30 TAC § 116.716, FHR added a 9% "insignificant emissions factor" to its calculated heater cap contributions. Therefore, FHR argues that a high degree of conservatism is built into the PM/PM10 cap contributions from the Heaters.²³ FHR also offered testimony that the EPA now considers the AP-42 factors used to calculate the

²¹ FHR Ex. 8, Draft Permit (Apr. 18, 2007) at 56.

²² Tr. 305, 308-309, 324. Testimony indicated that stack testing natural gas fired heaters for PM/PM10 is very difficult and unreliable. Tr. 309-310.

²³ Tr. 20, 321-323; FHR Ex. 11, Kirchner direct at 13.

PM/PM10 cap to significantly overestimate particulate matter emissions, which indicates an additional level of conservatism.²⁴

Finally, FHR states that its stack test data and CMS data for CO can be used as a surrogate for PM/PM10. The level of both CO and PM/PM10 in exhaust from a gas-fired heater is related to the completeness of combustion—more complete combustion reduces the level of these contaminants. Thus, the level of detected CO in the exhaust gas from the Heaters also indicates the relative level of PM/PM10, and because FHR's CO data for the Heaters shows complete combustion, FHR contends that the Heaters' actual PM/PM10 emission rates are similarly much lower than the updated AP-42 emission factors.²⁵

Volatile Organic Compounds (VOC): FHR's recalculated emissions caps for VOC based on the updated AP-42 emission rate factors produced the following revisions:²⁶

VOC Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	0.41 lb/hr	1.80 ton/yr	1.57 lb/hr	6.88 ton/yr
Crude Charge Heater	0.33 lb/hr	1.43 ton/yr	1.24 lb/hr	5.45 ton/yr
Crude Vacuum Heater	0.27 lb/hr	1.19 ton/yr	0.52 lb/hr	2.29 ton/yr

Again, these heater VOC cap contributions are not emission limits for the Heaters but are calculated emission rates that are added into the facility VOC cap for all sources at the site. The flexible permit's VOC emissions cap for the entire facility is 3,498.00 lb/hr and 2,211.08 ton/yr, so

²⁴ Tr. 354-356; FHR Ex. 27, EPA document excerpt.

²⁵ FHR Ex. 1, Taylor direct at 24; FHR Ex. 11, Kirchner direct at 20; FHR Ex. 18, Olson direct at 9; Tr. 20-21, 49-50, 343-347; FHR Ex. 12 (Summary of Emission Rate Cap Changes).

²⁶ FHR Ex. 12, Summary of Emission Rate Cap Changes.

the VOC emissions cap for the three Heaters in question represent only about 0.60% of the facility's overall VOC cap.²⁷

FHR states that the same conservative assumptions made concerning CO and PM/PM10 apply to the VOC emission rates. That is, FHR's monthly cap compliance calculations show that actual site-wide VOC emissions equal about half of the VOC cap;²⁸ FHR made the same assumptions about maximum heater firing rates;²⁹ and FHR applied the same 9% insignificant emissions factor.³⁰ Likewise, FHR's CO stack test and CEMS data show the Heaters achieving complete combustion, which serves as a surrogate for VOC the same as for PM/PM10.³¹

FHR rejects CFEJ's argument that the AP-42 emission rates should not be used because they are based on averages and do not reflect the actual emissions of any specific source. An average emission rate, as used in the AP-42 factors, indicates that some sources emit less than the average while other sources emit more than the average. Therefore, CFEJ contends that FHR's actual emission rates for PM/PM10 and VOC could be higher than the new AP-42 emission rate factor since no actual testing has been made at FHR for those contaminants. In response, FHR reiterates that CO has been monitored for the Heaters, and CO levels have shown complete or near complete combustion, which indicates that actual PM/PM10 and VOC emissions from the Heaters are below the AP-42 emission rate factors.³²

CFEJ also argued against the use of AP-42 emission factors based on a statement in the introduction to AP-42 that use of the factors "as source-specific limits . . . is not recommended."

²⁷ FHR Ex. 8, Draft Permit (Apr. 18, 2007) at 58.

²⁸ Tr. 306.

²⁹ Tr. 321-323.

³⁰ FHR Ex. 11, Kirchner direct at 13; Tr. 20.

³¹ FHR Ex. 1, Taylor direct at 24; FHR Ex. 11, Kirchner direct at 20; FHR Ex. 18, Olson direct at 9; Tr. 20-21, 49-50, 343-347.

³² FHR's Closing Argument at 13-14.

FHR responds that CFEJ failed to account for the flexible nature of FHR's air permit. Specifically, FHR did not use the factors to develop any "source-specific limits;" rather, it used the AP-42 factors only to estimate emissions for the purpose of calculating a site-wide cap,³³ of which emissions from the Heaters represent only a small percentage. Therefore, FHR argues, the disclaimer in the AP-42 Introduction does not apply to the use of the factors in this case.³⁴

In addition, FHR states that AP-42 has included the same or similar disclaimer language for nearly 40 years, yet during this entire time the EPA has known that permitting authorities such as the TCEQ have allowed applicants to use the AP-42 factors to calculate emissions.³⁵ In fact, FHR states, the EPA recently reviewed a permit amendment application in which FHR used the same AP-42 factors for heaters as used in the present case. Although the EPA made comments about other aspects of the application, the EPA did not object to FHR's use of the AP-42 factors.³⁶ Further, FHR points out that CFEJ's only witness, Mr. Irvin Bilsky, used the AP-42 factors when he was an agency permit reviewer, he currently uses these factors in his private consulting practice, and he expects to continue using them in the future.³⁷

Finally, FHR contends that actual testing for VOC and PM/PM10 at each of the Heaters would not be practical. It notes that these emissions are widely accepted as being insignificant, and neither the TCEQ nor any other regulatory agency requires testing for them.³⁸ Likewise, the EPA's new source performance standards for qualifying gas-fired combustion devices do not include limits on emissions for VOC or PM/PM10 and do not require testing for them.³⁹ Mr. Kirchner and Mr. Taylor testified that testing for these constituents is very rare, and the methods for such testing are

³³ Tr. 19-20, 27, 45, 320.

³⁴ FHR's Closing Argument at 14-15.

³⁵ Tr. 357-358.

³⁶ Tr. 298-299.

³⁷ Tr. 62-63, 66, 76, 110-111, 116, 117.

³⁸ FHR. Ex. 1, Taylor direct at 24.

unreliable and expensive.⁴⁰ In any event, FHR states, it has already stack tested and continues to monitor CO emissions, which serve as a surrogate for VOC and PM/PM10 emissions.⁴¹ Under these circumstances, FHR argues that its use of the AP-42 emissions factors was appropriate.

The ED agrees that FHR's use of AP-42 emission factors to calculate cap contributions from the West Crude Heaters and the No. 2 Parex Hot Oil Heater was appropriate and adequate to assure compliance with all related applicable requirements and limits. ED witness Dr. Ozden Tamer testified that the emissions at this facility are already authorized by standard permits or a permit by rule; that FHR was required by Commission rules to incorporate the current permits into the flexible permit; and that increases in the emission levels in the amended permit are due to the revised AP-42 emission factors rather than actual emission increases.⁴²

Further, the ED states that FHR's CEMS data and stack testing data for CO confirm that the AP-42 emission factor for CO conservatively overestimates CO emissions.⁴³ The ED also agrees that use of CO monitoring as a surrogate for VOC and PM/PM10 emissions is appropriate for showing compliance with emission limits. The EPA has recognized this practice as appropriate, and Dr. Tamer testified that it is common practice.⁴⁴ Concerning the use of AP-42 emission factors for short-term emissions of PM/PM10 and VOC, Dr. Tamer testified that the TCEQ applies the factors to short-term emissions as well as long-term emissions and that the TCEQ would not allow a higher limit for short-term emissions because it would allow the applicant to emit more, which would not be BACT.⁴⁵

³⁹ *Id.* at 24.

⁴⁰ Tr. 22, 309-311.

⁴¹ Tr. 345-347.

⁴² Ex. ED-1, Tamer direct at 18-19; Tr. 258. *See*, 30 TAC § 116.615(3)

⁴³ ED's Closing Argument at 4-5.

⁴⁴ Tr. 20-21, 251.

OPIC also agrees that use of emission factors in air permitting is a common practice of the TCEQ. Although it believes that actual monitored emissions data is preferable to emissions factors, OPIC realizes that monitored emissions data are not always available and emissions factors may be the best available estimation tool. Therefore, OPIC concludes that the use of updated AP-42 emission factors to calculate cap contributions for the West Crude Heaters and the No. 2 Parex Hot Oil Heater is appropriate.⁴⁶

CFEJ contends that deficiencies exist in using AP-42 emissions factors when they are used to establish short-term emission rates for point sources and fugitive sources of air contaminant emissions. Specifically, CFEJ states, the short-term, worst case emission scenario is not correctly identified by these emissions factors for TCEQ health-effects review, as required under 30 TAC Ch. 116.⁴⁷ CFEJ also criticizes FHR's emphasis on the overall emissions cap and its discounting of the importance of determining the emissions at individual sources, pointing out that the accuracy of the facility's overall cap depends on the accuracy of the contributions to the cap. Moreover, CFEJ states, the flexible cap does not negate federal emissions requirements or the emissions rate caps established for each unit covered by the flexible permit, and it complains that federal law does not allow for the 9% "insignificant emissions" adjustment added by FHR for each source. CFEJ also states that TCEQ rules do not account for emissions occurring during maintenance, startup, and shutdown, which, in its opinion, should be considered as part of BACT analysis.⁴⁸

CFEJ acknowledges that the TCEQ has historically accepted the use of AP-42 emissions factors and TCEQ fugitive emissions factors for air permits unless more accurate emissions data is available, such as a vendor guarantee. Mr. Irvin Bilsky, CFEJ's expert, testified that a valid emissions factor should provide a conservative overestimation of emissions in order to protect

⁴⁵ Tr. 259.

⁴⁶ OPIC Closing Argument at 3-4.

⁴⁷ CFEJ Closing Brief at 1.

⁴⁸ *Id.* at 2-3.

human health and the environment, as required under 30 TAC Ch. 116. However, in Mr. Bilsky's opinion, use of AP-42 emissions factors for gas fired heaters, and use of TCEQ fugitive emissions factors for leaking components, may not be sufficiently conservative to protect human health when estimating short-term (lb/hr) emissions.⁴⁹ He testified that an emissions factor usually reflects the average or median value of collected emissions data; thus, it is merely an indicator of the "central tendency" of the collected data and does not represent the range of values, or "scatter," in the collected data.⁵⁰

CFEJ accepts that emissions factors that reflect the central tendency of data validly identify *long-term* worst-case emissions scenarios (ton/yr), because the deviations away from the central tendency tend to cancel out each other over the long-term.⁵¹ However, when estimating *short-term* worst-case emission rates, CFEJ stresses that it is important to examine the degree to which individual measurements that make up an emission factor vary from that average. In its view, the short-term, worst-case emissions scenario (lb/hr) is not accurately represented by an AP-42 emission factor.⁵² Instead, CFEJ recommends establishing a short-term worst-case emissions factor by examining the background data used to calculate the AP-42 average value, and then picking from the highest values within that data.⁵³ It argues that only using the AP-42 emissions factor (the average) ignores the statistical reality that the average value includes emissions that are higher than the average. And, in its opinion, using an average emissions factor does not demonstrate that the emissions level is protective of public health and welfare as required by 30 TAC § 116.111(a), because the worst-case short-term emissions scenario may not be represented.⁵⁴

⁴⁹ CFEJ Ex. 1, Bilsky direct at 13-14.

⁵⁰ *Id.* at 12.

⁵¹ CFEJ Ex. 1, Bilsky direct at 14; CFEJ Closing Brief at 5.

⁵² CFEJ Ex. 1, Bilsky direct at 11-12.

⁵³ *Id.* at 13.

⁵⁴ CFEJ Closing Brief at 4-6.

Mr. Bilsky also pointed out that the AP-42 emissions factors for boilers and process heaters are based on average natural gas heating values; yet, in the No. 2 Parex Heater and the Crude Heaters, FHR uses refinery gas, which has less heat content, less hydrocarbon, and more hydrogen, so the CO and VOC emissions may diverge from the AP-42 factors.⁵⁵

In response to CFEJ's arguments, FHR agrees that the AP-42 factors reflect averages, and that some sources emit at lower rates and some emit at higher rates. However, FHR argues that the evidence shows that the Heaters emit at much lower rates than average AP-42 emission factor rates. It cites the CEMS data, which shows that actual emissions of CO from the Heaters are far below the cap contributions calculated using the updated AP-42 factors.⁵⁶ The FHR witnesses testified that this data shows that the Heaters achieve near complete combustion; consequently, they are also emitting little if any products of incomplete combustion—CO, PM/PM10, and VOC.⁵⁷ In short, FHR states, the Heaters are not among the sources that might emit at higher rates than the AP-42 emission rates, and the use of AP-42 emissions rates is appropriate for these Heaters and is protective of human health and the environment.

As for CFEJ's argument that AP-42 emissions factors may be appropriate for calculating long-term emission rates but not short-term rates, FHR stresses that its CO CEMS data (also a surrogate for PM/PM10 and VOC) is *hourly* data that shows complete or near-complete combustion on an hourly basis.⁵⁸ It points out that the frequency of the few hours over the two years when the CO emissions rates would have exceeded the proposed cap contributions was extremely low—0.01% for the No. 2 Parex Hot Oil Heater and 0.17% for the West Crude Heaters—and these occurred almost exclusively during CEMS malfunctions and process upsets and are not representative of

⁵⁵ CFEJ Ex. 1, Bilsky direct at 9.

⁵⁶ FHR Ex. 1, Taylor direct at 27-29; FHR Exs. 3 and 4 (2007 and 2008 CEMS data); Tr. 282.

⁵⁷ FHR Ex. 1, Taylor direct at 24; FHR Ex. 11, Kirchner direct at 20; FHR Ex. 18, Olson direct at 9; Tr. 20, 49-50, 246-247, and 343-347.

⁵⁸ FHR Ex. 3 and 4 (2007 and 2008 CEMS data).

actual emissions during operating conditions authorized by the permit.⁵⁹ Moreover, FHR states, even if the Heaters' short-term emissions somehow did exceed the proposed cap contributions, it would not invalidate FHR's demonstrations that short-term emissions from the West Refinery are protective of public health because, under the flexible permit, protection of the public health is not based on a source-by-source analysis but on a facility-wide basis. Therefore, individual sources are allowed to exceed their individual cap contributions on either a long-term or short-term basis, so long as the long-term and short-term caps for the entire facility are not exceeded.⁶⁰

The ALJ finds that FHR's use of emission factors with regard to the changes requested in the amendment application or the changes in the proposed Special Conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits. All parties, even CFEJ, agree that FHR's use of AP-42 emissions factors is appropriate for calculating the Heaters' long-term CO, PM/PM10, and VOC emission rate cap contributions for FHR's flexible permit at the West Refinery.

CFEJ has questioned, however, whether use of AP-42 emissions factors is appropriate to calculate short-term, lb/hr emission rates. Its argument is that AP-42 emissions factors represent an average of emissions data from various sources, some of which will emit at higher rates than the average. For long-term emission rates, CFEJ accepts that upward and downward deviations from the average will balance to the average over the long-term.⁶¹ But for short-term, worst-case emission rates, CFEJ argues for using the highest values contained within the background data used to establish the AP-42 average emissions rate.⁶² In essence, CFEJ argues that the emission rate for the worst performing unit included in the EPA's data for AP-42 emission factors should be used as the short-term emissions rate.

⁵⁹ Tr. 283, 286, 287, and 288-289.

⁶⁰ Tr. 19-20, 27, and 320.

⁶¹ CFEJ Ex. 1, Bilsky direct at 14; CFEJ Closing Brief at 5.

⁶² *Id.* at 13.

The ALJ recommends that the Commission reject CFEJ's proposal. First, the evidence established that the Heaters are achieving complete or near-complete combustion, and stack testing and CEMS data show CO emissions from the Heaters at rates far below AP-42 average emission rates for these units. Although Mr. Bilsky claimed to have observed an anomaly in a small portion of FHR's data, the overwhelming evidence established that CO emissions levels are appropriately used as a surrogate for the relative emission rates of PM/PM10 and VOC. Thus, in this case, the low CO emissions from the Heaters is also strong evidence of correspondingly low PM/PM10 and VOC emissions from the Heaters. With this evidence specifically related to actual emissions from FHR's Heaters, it would not be realistic or appropriate to require use of emission rates from outlier, worst performing units included in EPA's data for AP-42 factors, as proposed by CFEJ.

The evidence also established that AP-42 emission rate factors are commonly used by industry, environmental consultants, and regulatory agencies, such as the TCEQ, to establish both long-term and short-term emission rate cap contributions. Indeed, even Mr. Bilsky (CFEJ's expert witness) testified as follows:

Q And you said that you do not believe that AP-42 emission factors should be used to calculate short-term, pound per hour emission rates. Correct?

A I don't think I characterized it quite that way. I didn't say, should not be used.

Q So they should be used. . . . Is it acceptable, in your mind, for AP-42 emission factors to be used to calculate short-term, pound per hour emission rates?

A Yes.

Q In permit applications, it's an acceptable method to determine permit emission rates?

A Yes.

Q And, in fact, you used AP-42 emission factors in [an El Paso Electric] application to calculate both short-term and long-term emission rates. Correct?

A Yes.

Therefore, because AP-42 emission rate factors have widespread acceptance by industry and regulatory agencies for establishing emission rate cap contributions, and because the evidence established that the FHR Heaters in question have actual emissions significantly lower than the applicable AP-42 emission rate factors, the ALJ finds that FHR's use of emission factors in this case is adequate to assure compliance with all related applicable requirements and limits.

B. FHR's Calculation of Short-Term Ammonia Cap Contributions for Piping and Other Fugitive Components Associated With the SNCR System Installed at the FCCU CO Boiler

The Fluid Catalytic Cracking Unit (FCCU) converts gas oils into gasoline, distillate, and other lighter products. The FCCU catalyst is regenerated by burning coke, and the regeneration gases are routed to the CO boiler to reduce CO emissions and generate steam. Exhaust from the CO boiler is routed to a caustic scrubber to control particulate matter and SO₂ emissions. FHR has proposed a new ammonia emission rate cap contribution for the FCCU CO boiler/scrubber because operation of a newly installed SNCR pollution control system resulted in new potential emissions of ammonia. To reduce NO_x emissions in the flue gas, the SNCR process injects aqueous ammonia directly into the combustion area of the FCCU CO Boiler/Scrubber. A potential side effect of this process is the emission of ammonia into the atmosphere, a phenomenon called "ammonia slip." Also, the potential exists for a small amount of ammonia emissions from the piping, connectors, valves, and other components associated with the SNCR system (the FCCU Fugitives).

Thus, the two sources for the new ammonia emissions rate cap are (1) the FCCU CO Boiler/Scrubber through which the ammonia slip emissions are routed and (2) the SNCR system piping, connectors, valves, and other components that are the potential source of fugitive ammonia emissions. In the draft permit, the potential ammonia emissions from these two sources are combined into a single ammonia cap contribution. Over 99% of the total ammonia cap reflects the

calculated cap contribution from the FCCU CO Boiler/Scrubber, while less than 1% to the total ammonia cap is based on what FCCU Fugitives contribute.⁶³

Because of uncertainty about how the SNCR system would work with the FCCU Boiler, FHR states that it used “extremely conservative” (*i.e.*, high) emission rates to calculate the FCCU CO Boiler/Scrubber ammonia cap contributions. These rates were based on engineering judgment concerning the amount of ammonia slip that might occur, and they were further adjusted upward by 9% based on 30 TAC § 116.716, resulting in a maximum hourly rate of 25 ppmv (dry basis) and an annual average concentration of 15 ppmv (dry basis).⁶⁴ No party has contested these proposed emission-cap contributions from the FCCU CO Boiler/Scrubber.

To calculate the new ammonia cap contributions from the FCCU Fugitives, FHR used emissions factors from EPA’s “Protocol for Equipment Leak Emission Estimates.” These EPA emission factors are restated in a TCEQ guidance document entitled, “Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives,” and they are the emission factors used for TCEQ permitting purposes.

Special Condition No. 25 of the Air Permit requires FHR operators to conduct daily audio, visual, and olfactory (AVO) monitoring of the FCCU Fugitives to check for gaseous and liquid ammonia leaks. FHR states that given the nature of the monitoring, the distinct odor of ammonia, and the ability to visually detect liquid ammonia leaks, AVO monitoring is extremely effective in detecting any ammonia leaks that might occur from the FCCU Fugitives. Therefore, to calculate the new ammonia cap contributions, FHR applied control efficiencies for each component type to account for the FHR AVO monitoring program used for the FCCU Fugitives. These control efficiencies are authorized by TCEQ guidance and practice, and they significantly reduce the ammonia fugitive emission rates used by FHR, generally more than a 90% reduction. But even when

⁶³ Tr. 273-274; FHR Ex. 12 (Summary of Emission Rate Cap Changes).

⁶⁴ FHR Ex. 11, Kirchner direct at 21-22; Tr. 275.

the monitoring-based control efficiencies are applied, the ammonia fugitive emission factors used by FHR still assume that a certain percentage of the fugitive components will leak. However, no leaks associated with the FCCU Fugitives have been detected during more than two years of operation of the SNCR system, which, FHR states, indicates that actual emissions from the FCCU Fugitives are less than their ammonia cap contributions. Finally, FHR added a 9% "insignificant emission factor" to its calculated FCCU Fugitives ammonia cap contributions, as authorized in 30 TAC §116.716.

As with the AP-42 emissions factors, CFEJ complains that the TCEQ's emissions factors for fugitive components were developed by taking averages of collected data, and the average-value emission factors are applied without consideration of the underlying scatter of measurements, which CFEJ believes should be evaluated to identify the short-term, worst-case emissions scenario for purposes of TCEQ health effects review.⁶⁵ CFEJ also criticizes FHR's use of the control-efficiency downward adjustment that is based upon the requirements of Special Condition No. 25 for AVO monitoring and leak repairs. It points out that monitoring is required only once per shift, so several hours could pass before a leak might be detected. Further, Special Condition No. 25 allows up to an hour to isolate and commence repair of a leak, so CFEJ asserts that an uncontrolled leak could occur for several hours before it was detected and controlled. In CFEJ's opinion, use of the TCEQ's average-value emissions factors for leaking components, along with the further control-efficiency reduction, understates the short-term, worst-case individual source emissions for piping and component sources of fugitive emissions associated with the SNCR system installed at the FCCU CO Boiler.⁶⁶

FHR reiterates that over 99% of the total ammonia cap reflects the calculated cap contribution for the FCCU CO Boiler/Scrubber, while FCCU fugitives contribute less than 1% to the total ammonia cap.⁶⁷ To calculate actual ammonia emissions from the FCCU CO Boiler/Scrubber

⁶⁵ CFEJ Closing Brief at 10; Tr. 326-328.

⁶⁶ CFEJ Closing Brief at 10-12.

⁶⁷ Tr. 273-274; FHR Ex. 12 (Summary of Emission Rate Cap Changes).

(i.e. the ammonia slip), FHR periodically sampled the concentration of ammonia captured in the scrubber water between April 20, 2007, and December 31, 2008. It then “back calculated” the concentration of ammonia in the uncontrolled FCCU Co Boiler stack gases, using a mass balance approach, and from that result calculated the ammonia concentration in the controlled stack gases. Mr. Taylor testified for FHR that it would be reasonable to assume that the scrubber removes 99% of the ammonia from the stack gases due to the high solubility of ammonia in water, but to be conservative in his calculations, he assumed a scrubber efficiency of only 90% to reflect a worst-case scenario. These calculations indicated that little to no ammonia slip would occur; thus, Mr. Taylor concluded that ammonia emissions downstream from the scrubber would be virtually non-existent. The highest value seen during this sampling period was 13 ppm, below both the 25 ppm and 15 ppm values used for the short-term and long-term ammonia cap contributions contained in the permit.⁶⁸

FHR has not measured actual fugitive emissions from the SNCR piping system, connectors, valves, and other components. However, on each shift, FHR operators conduct AVO monitoring of the SNCR system to check for gaseous and liquid ammonia leaks. Work-order records dating back to November 2006 indicate that no fugitive ammonia leaks have occurred over the more than two-year operation of the SNCR system. The emission factors used by FHR to calculate the ammonia fugitives emissions cap contribution assumes that a certain percentage of components leak; consequently, FHR contends that because no leaks have been detected in more than two years of service, the actual emissions from FCCU Fugitives are less than the proposed conservative cap contributions.⁶⁹

FHR rejects the criticism made by CFEJ witness Bilsky about FHR’s reduction of the short-term fugitives emissions cap based on control efficiencies. FHR stresses that the reduction is based on TCEQ guidance and practice, and it suggests that Mr. Bilsky misunderstood what the control efficiencies represent and how they are applied. And in any event, FHR states that actual short-term

⁶⁸ FHR Ex. 1, Taylor direct at 29-33; Tr. 275-278.

⁶⁹ Tr. 271-273, 328-329, 365-367.

ammonia emissions from the FCCU CO Boiler/Scrubber, which accounts for more than 99% of the total ammonia cap, are well below the emissions cap, so that more than enough headroom exists in the total ammonia cap to account for any possible increase in emissions from the FCCU fugitives, which account for less than 1% of the total ammonia emissions rate cap contribution.⁷⁰

The ED supports FHR's position concerning the ammonia emission caps.⁷¹ Likewise, OPIC agrees that FHR's claimed control efficiencies for short-term fugitive ammonia emissions are consistent with TCEQ guidance. It also notes that Special Condition 25 in the draft permit requires FHR to conduct AVO checks for ammonia leaks once per shift and that any detected leaks must be promptly isolated and repaired. Therefore, OPIC concludes that FHR's application and the Draft Permit adequately account for short-term ammonia cap contributions for piping and other fugitive components associated with the SNCR system installed at the FCCUR CO boiler.⁷²

The ALJ finds that FHR has appropriately accounted for possible ammonia emissions in its ammonia emission-cap contribution rates. FHR used conservative engineering judgment and assumptions to calculate the ammonia emission rates for the FCCU CO Boiler/Scrubber, and no party has contested those proposed emission-cap contribution rates, which comprise more than 99% of the total ammonia cap contributions. Likewise, no party contests the long-term ammonia emission rates for fugitive emissions, but CFEJ objects to the use of emission factors and control efficiencies in calculating short-term fugitive ammonia emissions. CFEJ again argues that use of emission factors based on average values fails to account for the scatter of data that would include emissions greater than the average, which it believes should be used to determine a worst-case, short-term scenario. While all parties acknowledge that average emission factors include values above and below the average, no evidence in this case suggests that the FHR fugitive emissions would exceed the average. Rather, the evidence indicated that no ammonia leaks have occurred during the two

⁷⁰ Tr. 279; FHR's Closing Argument at 23-25.

⁷¹ ED's Closing Argument at 6-7; ED's Replies to Closing Arguments at 4.

⁷² OPIC Closing Argument at 5-6.

years of operations of the SNCR pollution control system and that FHR's actual fugitive ammonia emissions are likely below the average.

It is also clear that FHR's application of control efficiencies to reduce the fugitive emission rate based on its AVO leak detection program is in accordance with TCEQ policy. CFEJ's witness, Mr. Bilsky, simply disagrees with the policy. At hearing he testified:

Q And so would you agree that it is TCEQ – per TCEQ guidance, one would apply a control efficiency in calculating both short-term and long-term emissions for a fugitive component area?

A That – yes. That's – that's identification of TCEQ policy.

Q And would you say that policy is also consistent with TCEQ's practice as far as reviewing and issuing air permits?

A Yes. In the category of permitting it is, but not necessarily in the category of enforcement.

Q But if I were to submit a permit application to the TCEQ, an air permit application, and calculate emissions for a fugitive component area, it would be fair to say that it – I should expect TCEQ would accept the application of control efficiency for both the short-term and pound per hour emission rate calculations?

A Yes. But it's incorrect to characterize it as a control efficiency insofar as pound an hour values are concerned.

Q But according to TCEQ guidance on this sample calculation, they do label it as a control efficiency. Correct?

A Yes, and it's mistaken.

Q Mistaken; that is your opinion. Correct?

A That's – that is my opinion.

Q Which is, again, contrary to this guidance document?

A Yes.⁷³

Therefore, the ALJ finds that FHR properly calculated the ammonia cap contribution rates for both the FCCU CO Boiler/Scrubber and for fugitive components associated with the SNCR pollution control system in accordance with TCEQ policy and guidance.

C. Whether the monitoring requirements that are proposed for change in the amendment application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.

This second issue contained in the Commission's referral order was not specifically contested by any party. However, to fully inform the Commission, this PFD will summarize the evidence offered by FHR concerning monitoring requirement changes:

Monitoring Requirement Change # 1: Special Condition No. 10 has been changed to specify that the monitoring of cooling tower water must be done in compliance with Paragraph 69(b) of the EPA Consent Decree, as amended January 19, 2007. This change is unrelated to the changes requested in the Application, and it was formally approved by TCEQ on May 4, 2007, as part of a different permit amendment action.⁷⁴

Monitoring Requirement Change # 2: In the version of FHR's air permit marked as FHR Ex. 7, two sets of Leak Detection and Repair (LDAR) provisions are set forth at Special Conditions Nos. 18 and 19. Special Condition No. 18 in FHR Ex. 7 applies to the piping, valves, connectors, pumps, and compressors in VOC service associated with the listed units, and it implements an LDAR program known as "28M." Special Condition No. 19 in FHR Ex. 7 applies to piping, valves, connectors, pumps, and compressors in VOC service associated with a different set of listed units, and it implements a more stringent LDAR program known as "28VHP." In the amended draft

⁷³ Tr. 125-126.

⁷⁴ FHR Ex. 1, Taylor direct at 35.

permit, the ED proposes to eliminate the 28M LDAR provisions and make the more stringent 28VHP LDAR provisions applicable to the piping, valves, connectors, pumps, and compressors in VOC service associated with both sets of listed units. This change is unrelated to the changes requested in the Application, and the monitoring is used to detect and repair leaks rather than determine compliance with any permit limits.⁷⁵

Monitoring Requirement Change # 3: In response to public comment, the ED proposes to add the following language to Special Condition 18E: “Any leaks discovered through AVO inspection shall be tagged and replaced or repaired.” This addition concerns detection and repairing of leaks and is not used to determine compliance with any permit limit.⁷⁶

Monitoring Requirement Change # 4: In Special Condition No. 26 (Special Condition No. 25 in the draft amended permit), the ED proposed to add ammonia to the types of leaks for which AVO checks must be made once per shift. This addition concerns detection and repairing leaks and is not used to determine compliance with any permit limit.⁷⁷

Monitoring Requirement Change # 5: In Special Conditions Nos. 54, 59.B, and 60.J (Special Conditions Nos. 53, 58.B, and 59.J in the draft amended permit),⁷⁸ the ED proposes to add language that would allow monitoring via instrumentation devices (pH meters, pressure instrumentation, etc.) to have up to 5% invalid data on a 12-month basis without violating the monitoring requirement. In this context, “invalid data” refers to data that is unusable because the respective analyzer or meter was not functioning properly when the data was collected. This proposed change is unrelated to the changes requested in the Application. However, this monitoring

⁷⁵ *Id.* at 35-36.

⁷⁶ *Id.* at 36-37.

⁷⁷ *Id.* at 37.

⁷⁸ The numbering of the special conditions varies between FHR Ex. 7 (FHR’s permit as altered by the ED on December 6, 2009) and FHR Ex. 8 (the draft amended permit released by the ED on April 18, 2007).

is used to determine compliance with permit limits in two instances. The fuel and gas flow data measured in accordance with Special Conditions Nos. 59.B and 60.J (Special Conditions 58.B and 59.J in the draft amended permit) are inputs in calculations used to determine the monthly cap contributions for the Gas Turbine Cogeneration Facility and the CCR Platformer Regeneration Vent Scrubber, respectively. However, the proposed change to allow up to 5% invalid data will not affect the quality or quantity of data collected or used in these calculations because FHR does not utilize invalid data to demonstrate compliance under the present permit condition; further, fuel and gas flow are required to be monitored continuously.⁷⁹

Monitoring Requirement Change # 6: Special Condition No. 53 (Special Condition No. 52 in the draft amended permit) proposes to add the West Crude Heaters to the list of emission points subject to a CEMS requirement. The NO_x CEMS was added to comply with the EPA consent decree and the CO CEMS was added at the same time at FHR's initiative. The change to Special Condition No. 52 in the draft permit is being proposed simply to reflect that these CEMS were installed and are currently working at the site. The CEMS monitoring of NO_x and CO from the West Crude Heaters is used to determine compliance with the hourly NO_x limit of 0.045 lb/MMBtu, and the data collected by the CEMS is used to calculate the West Crude Heaters' monthly NO_x and CO cap contributions.⁸⁰

Monitoring Requirement Change # 7: Special Condition No. 53 (Special Condition No. 52 in the draft amended permit) also proposes to add the No. 2 Parex Hot Oil Heater to the list of emission points subject to a CEMS requirement. Like the West Crude Heaters, this NO_x CEMS was also added to comply with the EPA consent decree, and the CO CEMS was added at the same time at FHR's initiative. The change to Special Condition No. 52 in the draft permit is being proposed simply to reflect that these CEMS were installed and are currently working at the site. The CEMS monitoring of NO_x and CO from the No. 2 Parex Hot Oil Heater is used to determine compliance

⁷⁹ *Id.* at 38-39; FHR Ex. 18, Olson direct at 14-15.

⁸⁰ FHR Ex. 1, Taylor direct at 39-40; FHR Ex. 18, Olson Direct at 15.

with the hourly NOx limit of 0.045 lb/MMBtu, and the data collected by the CEMS is used to calculate the No. 2 Parex Hot Oil Heater monthly NOx and CO cap contributions.⁸¹

Monitoring Requirement Change # 8: A pre-existing typographical error has been corrected in Special Condition No. 55 (Special Condition No. 54 in the draft amended permit) to make clear that it is temperature readings, not pH readings, that are required to be reduced to an averaging period of six minutes or less. This is unrelated to the changes requested in the Application, and it was formally approved and made by TCEQ on November 12, 2008, as part of a different permit amendment action; therefore, it is not part of the current pending amendment.⁸²

Monitoring Requirement Change # 9: Special Condition No. 56 (Special Condition No. 55 in the draft amended permit) specifies that FHR must install a continuous H2S monitoring system downstream of the caustic scrubber prior to the Monroe Separator Flare. This data is not used to determine compliance with any permit limits.

Monitoring Requirement Change # 10: Special Condition No. 59 (Special Condition No. 58 in the draft amended permit) proposes to revise the language regarding the monitoring of fuel gas for sulfur and nitrogen content at the Gas Turbine Cogeneration facility to update the reference to a subsection of the applicable federal rule, 40 C.F.R. § 60.334(h), setting forth monitoring requirements for sources subject to the EPA's New Source Performance Standards for Stationary Gas Turbines. This change is proposed to reflect a revision to the federal rule and is unrelated to the changes requested in the Application. The sulfur content data collected by this monitoring is an input in a calculation used to determine the monthly SO₂ cap contribution for the Gas Turbine Cogeneration Facility. However, the proposed change will have no effect on how this monitoring is

⁸¹ FHR Ex. 1, Taylor direct at 41-42; FHR Ex. 18, Olson direct at 15-16.

⁸² FHR Ex. 1, Taylor direct at 42.

conducted, because the monitoring conducted by FHR complies with both the previous and current versions of the federal rule.⁸³

With respect to above Monitoring Requirements Nos. 5, 6, 7, and 10, which involve determining compliance with permit limits, both Mr. Taylor and Ms. Olson testified that these requirements are adequate to determine compliance.⁸⁴ No party contested this testimony.

D. Revision of Draft Permit Special Condition No. 3 to Require a Reference to Quantification of PM Emissions Whenever Visible Emissions Occur, Except for Periods of Startup and Shutdown.

The West Crude Heaters were added by Special Condition No. 3, which provides that “there shall be no visible emissions for periods exceeding five minutes over any two hour period” CFEJ notes that the PM emission rate cap contribution for the Heaters for normal operations is based on the applicable AP-42 factor. However, it states, no factor was applied to add increased PM emission rates during periods of visible emissions in calculating the short term (lb/hour) or long-term (ton/year) cap contributions. CFEJ complains that it cannot confirm whether the PM cap contribution calculations for the Heaters were correct or within the 9% cushion allowed under the flexible permit rules, because neither FHR nor the ED addressed quantification of the intermittent increase of PM emission rates during periods of visible emissions allowed by Special Condition No. 3. It believes that stack testing can be performed to quantify PM emissions during periods of visible emissions. Therefore, CFEJ requests that the Commission revise Special Condition No. 3 to require quantification of higher PM emissions during periods of visible emissions and include those emissions in the PM cap contribution for the Heaters.⁸⁵

⁸³ *Id.* at 43-45; FHR Ex. 18, Olson direct at 16-17.

⁸⁴ See citations above concerning each monitoring requirement.

⁸⁵ CFEJ Closing Brief at 12-13.

FHR, the ED, and OPIC all argue that this issue raised by CFEJ in its closing argument is beyond the scope of the two issues referred by the Commission to SOAH.⁸⁶ FHR states that CFEJ has attempted to connect this question to the Commission's referred issue concerning whether monitoring requirements proposed for change in the Special Conditions are adequate to determine compliance with the permit limits. However, FHR stresses that Special Condition No. 3 is not part of the Monitoring section of the permit; instead, it is in the General Process Requirements section and contains no monitoring requirement.⁸⁷ FHR also points out that CFEJ did not mention this proposed revision to Special Condition No. 3 in its prefiled testimony; rather, it only attempted to raise the question belatedly at the hearing in its live redirect-examination of Mr. Bilsky, to which FHR objected as beyond the scope of the referred issues.⁸⁸

FHR also rejects CFEJ's premise that the PM/PM10 cap contributions proposed in the permit must be wrong because visible emissions are allowed from the Heaters under Special Condition No. 3 for no more than five minutes over any two-hour period. While acknowledging that visible emissions are indicative of PM/PM10 emissions, FHR argues that the very short periods of visible emissions allowed under this special condition are not inconsistent with FHR's calculated hourly PM/PM10 emissions rate for the Heaters. FHR also emphasizes that CFEJ's contention is not supported with any evidence in the record. Moreover, FHR cites testimony by the ED-witness Tamer that the ED would never ask for testing for VOC or PM, as FHR is already testing for CO (a surrogate for VOC and PM) and the small VOC and PM increases in the permit are due to the AP-42 updates rather than operational changes (*i.e.*, no actual increases).⁸⁹

The ED states that although the Heaters are subject to opacity monitoring, the specifics of the opacity monitoring methods are not subject to change under the application; therefore, CFEJ's

⁸⁶ FHR Closing Argument at 26-27; ED Closing Argument at 8; OPIC Closing Argument at 6-7.

⁸⁷ See, FHR Ex. 8, Draft Permit (Apr. 18, 2007) at 17-18, 22-25, and 40-46 of 71.

⁸⁸ Tr. 196-203.

⁸⁹ FHR Response to Closing Argument at 9-11; Tr 263-264.

arguments are beyond the scope of the Commission's second referred issue, which is limited to monitoring requirement *changes* proposed in the amended permit. The ED also reiterates Dr. Tamer's testimony that testing for VOC or PM is not necessary because FHR is already testing for CO, and the small VOC and PM increases in the permit are due to the AP-42 updates rather than operational changes.⁹⁰

The ALJ recommends that the Commission deny CFEJ's request to amend Special Condition No. 3. First, the ALJ agrees with FHR that Special Condition No. 3 is not a monitoring requirement. Rather it is located in the General Process Requirements section of the draft permit and contains no monitoring requirement.⁹¹ Further, no evidence indicated that this limitation on the amount of visible emissions has any affect on the PM/PM10 emission-cap contribution rates. And finally, Dr. Tamer testified that the ED would not ask for testing for PM, as FHR is already testing for CO (a surrogate for PM), and the small PM increases in the permit are due to the AP-42 updates rather than operational changes.⁹² Therefore, the ALJ finds that CFEJ offered insufficient evidence to show that Special Condition No. 3 should be amended to require PM/PM10 testing during periods of visible emissions.

E. Revision of Draft Permit Special Condition No. 4 to Delete the Authorization of 100% Natural Gas Firing in the Heaters or Revision of the Heater Emission Rate Calculations for Cap Contributions to Include 100% Natural Gas Firing.

Special Condition No. 4 of the draft permit provides that "... the fuel for any heater, boiler, turbine, flare pilot, flare sweep and Monroe Separator Flare is limited to either natural gas, refinery gas, or a combination of natural gas and refinery gas. . . ."⁹³ CFEJ points out that the Heaters cannot fire 100% natural gas due to the refinery configuration, and FHR scaled the AP-42 emissions factors

⁹⁰ ED Closing Argument at 8; Tr 263-264.

⁹¹ See, FHR Ex. 8, Draft Permit (Apr. 18, 2007) at 17-18, 22-25, and 40-46 of 71.

⁹² FHR Response to Closing Argument at 9-11; Tr 263-264.

⁹³ FHR Ex. 8 at 19 of 71.

to account for the heat content of blended refinery gas when it calculated emissions cap contributions for the Heaters. Therefore, CFEJ believes that the wording of Special Condition is ambiguous and should be changed to specify exactly which sources are allowed to fire 100% natural gas and which are limited to firing blended fuels.⁹⁴

FHR and the ED argue that this issue raised by CFEJ is beyond the scope of the issues referred for hearing by the Commission. Further, because the Heaters are not configured to burn pure natural gas, FHR states that it was appropriate for it to adjust the AP-42 factors associated with natural gas downward (in accordance with the AP-42 instructions) to account for the lower heating value of the blended fuel that the Heaters actually use.⁹⁵ Moreover, FHR offered testimony that due to the lower hydrocarbon content of refinery gas compared to natural gas, it is likely that FHR conservatively overestimated the CO, PM/PM10, and VOC emissions in its calculations.⁹⁶

The ED and OPIC agree with FHR's arguments on this issue.⁹⁷

The ALJ recommends that the Commission deny CFEJ's request to amend the wording of Special Condition No. 4. This request by CFEJ is beyond the scope of the issues referred by the Commission. Although the language of Special Condition No. 4 literally authorizes the Heaters to use naturally gas only, the undisputed evidence established that the Heaters are not configured to burn 100% natural gas, and FHR appropriately adjusted the AP-42 emission factors to account for the different heat rate of the blended refinery gas used by the Heaters.

⁹⁴ CFEJ Closing Brief at 13-14.

⁹⁵ Tr. 300-302.

⁹⁶ Tr. 348-350; FHR Closing Argument at 27-29.

⁹⁷ ED Closing Argument at 9; ED Reply to Closing Arguments at 5; OPIC Closing Argument at 7-8.

F. Allocation of Transcript Costs

The ALJ required a transcript be prepared because the hearing was scheduled to last longer than one day.⁹⁸ The transcription costs total \$2,325.50. CFEJ requests that the Commission assess all transcript costs to FHR, while FHR requests that all transcript costs be assessed against CFEJ. After considering the factors set out in the TCEQ's rules, the ALJ recommends that the Commission assess all transcription costs against FHR.

The Commission's rules at 30 TAC § 80.23(d) list the factors to be considered in assessing reporting and transcription costs. The factors relevant to this case include the following:

- (A) The party who requested the transcript. The ALJ ordered the transcript.
- (B) The financial ability of the party to pay costs. CFEJ is a small community action group with little or no income or assets. After reviewing CFEJ for income eligibility, Texas Rio Grande Legal Aide (TRLA) agreed to provide CFEJ with free legal services without contingency. FHR is a for-profit corporate entity and clearly has the greater financial ability to pay costs.
- (C) The extent to which the party participated in the hearing. CFEJ was the only protestant and fully participated in the hearing. Although some minor straying from the Commission's referred issues occurred, the ALJ finds that the questioning of witnesses by the parties was generally to the point and directed toward relevant issues. FHR presented three witnesses in its direct case and recalled two of these witnesses for its rebuttal case. CFEJ and the ED each called one witness. CFEJ prefiled testimony from a second witness, but much of that testimony was stricken and CFEJ elected not present that witness at the hearing. The ALJ finds that the extent of participation by all parties was appropriate and that none of the parties unduly burdened the transcript with unnecessary questioning of witnesses.
- (D) The relative benefits to the various parties of having a transcript. Although all parties

benefited from having a transcript, as the party bearing the burden of proof, FHR had the greatest potential benefit from an ability to cite and reassemble the information within the record.

- (E) The budgetary constraints of a state or federal administrative agency participating in the proceeding. The broad responsibilities and limited budgets of the agency parties in this case make it unreasonable to assess costs against them. The rules also preclude the Commission from assessing costs against parties that cannot appeal a Commission decision (the ED and OPIC).⁹⁹
- (F) This factor is inapplicable.
- (G) Any other factor which is relevant to a just and reasonable assessment of costs. Although the ALJ did not accept the arguments made by CFEJ, the ALJ finds that all parties had plausible, good-faith arguments for the issues they raised.

After considering these factors, and particularly the financial ability of FHR and the benefit it received from having a transcript, the ALJ finds it appropriate to assess all transcript costs to FHR.

V. CONCLUSION

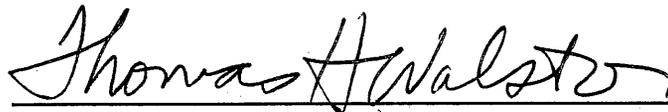
In conclusion, the ALJ finds that FHR's use of emissions factors is adequate to assure compliance with all related applicable requirements and limits, and the monitoring requirements that are proposed for change are sufficient to determine compliance with the permit limits. A proposed Order is attached to this PFD setting out findings of fact and conclusions of law addressing these referred issues. In addition, the proposed order includes a conclusion of law and an ordering provision stating that the terms of the permit and the Executive Director's review of the application comply with all applicable federal and state requirements. These items are included as a convenience to the Commission in order to allow it to more easily issue a single decision on the application in

⁹⁸ 30 TAC § 80.23(b)(4).

⁹⁹ 30 TAC § 80.23(d)(2).

accordance with 30 TAC § 50.117(g). The ALJ makes no recommendation regarding issues not referred for hearing.

Signed July 6, 2009.

Handwritten signature of Thomas H. Walston in cursive script, underlined.

THOMAS H. WALSTON
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



AN ORDER

Granting the Application of Flint Hills Resources, LP for Amendment to Air Permit Nos. 8803A and PSD-TX-413M8 for the West Refinery in Nueces County, Texas; SOAH Docket No. 582-09-0651, TCEQ Docket No. 2008-0293-AIR

On _____, 2009, the Texas Commission on Environmental Quality (Commission or TCEQ) considered the application of Flint Hills Resources, LP (FHR or Applicant) for Amendment to Air Permit Nos. 8803A and PSD-TX-413M8 for the West Refinery in Nueces County, Texas. Thomas H. Walston, Administrative Law Judge (ALJ) with the State Office of Administrative Hearings (SOAH), presented a Proposal for Decision (PFD) recommending that the two issues referred by the Commission for hearing be resolved in FHR's favor. After considering the ALJ's PFD and the evidence and arguments presented, the Commission makes the following Findings of Fact and Conclusions of Law:

I. FINDINGS OF FACT

A. General Findings and Procedural Issues

1. The Applicant is Flint Hills Resources, LP, 2825 Suntide Road, Corpus Christi, Texas 78409.
2. FHR owns and operates the West Refinery, which is a complex petrochemical facility that manufactures transportation fuels, such as diesel, gasoline, and jet fuel, and high purity chemicals from crude oil.

3. Many of the sources of air emissions at the West Refinery are authorized under Air Permit Nos. 8803A/PSD-TX-413M8 (the Air Permit), which is a flexible permit issued under Chapter 116, Subchapter G of TCEQ's rules.
4. A flexible permit is a permit that allows operational flexibility.
5. Instead of setting maximum emission rates for individual emission points, a flexible permit sets a cumulative emissions cap for a group of emission points, such that the group's collective emissions are authorized so long as they do not exceed the cap.
6. FHR is allowed to make certain physical and operational changes and exceed the source-specific cap contributions without triggering the need to amend the permit, provided the overall emission caps are not exceeded.
7. On August 9, 2006, FHR submitted an application to amend the Air Permit (the Application).
8. The Application was declared administratively complete on August 15, 2006.
9. After FHR filed an amendment to the Application to void Standard Permit No. 76446, the Application was again declared administratively complete on February 5, 2007.
10. Notice of Receipt and Intent to Obtain an Air Quality Permit (NORI) for the Application was published on February 16, 2007, in the *Corpus Christi Caller Times*, a newspaper of general circulation in Nueces County, Texas.
11. The Application was declared technically complete as of May 25, 2007.
12. Notice of Application and Preliminary Decision (NAPD) for this Air Quality Permit amendment was published on June 1, 2007, in the *Corpus Christi Caller Times*.
13. The public comment period for the Application closed on July 2, 2007.

14. The Executive Director's (ED's) Response to Comments (RTC) was filed with the Chief Clerk on January 11, 2008, and mailed on January 16, 2008, to all interested persons.
15. The purpose of the Application was not to authorize any new construction or operational change, but only to incorporate into the Air Permit previously issued and presently valid authorizations for six projects that have already been completed and are currently operating at FHR's West Refinery:
 - A) installation of ultra low-nitrogen oxide (NOx) burners on the West Crude Heaters, authorized by Standard Permit No. 77655, issued by TCEQ on January 18, 2006;
 - B) installation of a steam injection system on the No. 2 Parex Hot Oil Heater, authorized by Standard Permit No. 77459, issued by TCEQ on December 8, 2006;
 - C) installation of a selective non-catalytic reduction (SNCR) system on the FCCU CO Boiler/Scrubber, authorized by Standard Permit No. 76446, issued by TCEQ on August 15, 2005;
 - D) installation of a caustic scrubber on the Monroe API Separator, authorized by Standard Permit No. 79214, issued by TCEQ on July 12, 2006;
 - E) installation of a floating roof on Tank 08FB17, authorized by Standard Permit No. 74076, issued by TCEQ on November 10, 2004; and
 - F) storage of UDEX Reformate in Tank 08FB17, authorized by Permit by Rule 106.262, Registration No. 75266 dated April 14, 2005.
16. Except for the storage of UDEX Reformate in Tank 08FB17, all of the previously authorized projects were done for the purpose of reducing emissions of either NOx, volatile organic compounds (VOC), or sulfur compounds (i.e., hydrogen sulfide and sulfur dioxide).
17. FHR's reason for submitting the Application was to comply with the terms of a 2001 United States Environmental Protection Agency (EPA) consent decree, which required the previous authorizations for certain pollution control projects to be consolidated into the Air Permit.

18. On September 26, 2008, the Commission issued an Interim Order referring the following two issues to SOAH:

- A) Whether Flint Hills Resources' use of emission factors with regard to the changes requested in the amendment application or the changes in the proposed Special Conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits; and
- B) Whether the monitoring requirements that are proposed for change in the amendment application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.

19. At a January 6, 2009 preliminary hearing, SOAH ALJ Thomas Walston named as parties FHR, the Executive Director and the Office of Public Interest Counsel. FHR objected the admission of a fourth party, Citizens for Environmental Justice (CFEJ).

20. By order dated February 2, 2009, CFEJ was admitted as a party.

21. A hearing on the merits was held at SOAH's offices in Austin on April 7-8, 2009. All parties participated through their representatives.

22. All parties filed written closing arguments on May 12, 2009, and responses to closing arguments on June 2, 2009.

B. Whether Flint Hills Resources' use of emission factors with regard to the changes requested in the amendment application or the changes in the proposed special conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits

23. An "emission factor" is a numeric representation of an emission rate that is based on performance testing or some other type of analysis that is used to quantify emissions from a source in lieu of actual measurement at that source.

24. In a flexible permit, an emission rate cap contribution is not a source-specific limit, but the amount of emissions a particular source at the site contributes to a cap that limits cumulative emissions from multiple sources at the site.

25. There are three emission sources/groups of emission sources for which the calculated emission rate cap contributions will change as a result of this amendment:

- A) the No. 2 Parex Hot Oil Heater (EPN N-103, FIN 31BA1), the Crude Charge Heater (EPN A-103, FIN 40BA101) and the Crude Vacuum Heater (EPN A-103, FIN 40BA401) (collectively, the Heaters);
- B) the FCCU CO Boiler/Scrubber (EPN AA-4, EPN 01BF102) and associated fugitives (EPN F-01, EPN 01); and
- C) Tank 08FB17 (EPN FB17, FIN 08FB17) (pound-per-hour only).

(1) The Heaters

26. The West Crude Heaters are part of the West Crude Unit, which is that part of the refinery that separates crude oil into fractions by distillation and steam stripping. The West Crude Charge Heater and the West Crude Vacuum Heater make up the West Crude Heaters. Both are gas-fired heaters and they vent through a common stack.

27. The West Crude Charge Heater is used to heat desalted crude prior to the Crude Column, where the crude oil is separated into various products.

28. The West Crude Vacuum Heater heats atmospheric reduced crude (Crude Column bottoms) prior to the Vacuum Distillation Tower, where the reduced crude is separated into various products.

29. In May of 2006, FHR completed installation of ultra low-NOx burners on the West Crude Heaters, the purpose of which was to reduce NOx emissions.

30. The No. 2 Parex Hot Oil Heater is part of what is known as the Parex No. 2 Unit, which recovers paraxylene from a mixed xylene stream using an adsorption-extraction process.

31. The No. 2 Parex Hot Oil Heater is a gas-fired heater used to heat hot oil for the reboiler.

32. In September of 2006, FHR completed installation of a steam injection system at the No. 2 Parex Hot Oil Heater, the purpose of which was to reduce NOx emissions.

(a) NOx emissions from the Heaters

33. In the case of NOx emissions from the Heaters, the changes in the emission rate cap contributions are the result of the lower emission rate limit of 0.045 pounds per million British thermal units (lb/MMBtu) achievable with the installation of the ultra low-NOx burners and steam injection system.
34. An emission factor of 0.045 lb/MMBtu was used to calculate the proposed emission rate cap contributions for the Heaters.
35. The source of the 0.045 lb/MMBtu emission factor is an April 25, 2001 EPA Consent Decree entered into by FHR, which specifies 0.045 lb/MMBtu as the target emission rate for the Heaters.
36. NOx emissions from the Heaters are measured using a continuous emissions monitoring system (CEMS).
37. The CEMS are calibrated daily and are operated in accordance with the West Refinery's CEMS quality assurance/quality control program, which, in turn, was established in accordance with EPA's regulations setting forth its New Source Performance Standards for various source types.
38. The CEMS are also tested periodically by third party testers to further demonstrate their accuracy.
39. CEMS data demonstrate that the Heaters are meeting the 0.045 lb/MMBTU NOx emission rate.

(b) CO, PM/PM10, and VOC emissions from the Heaters

40. In the case of carbon monoxide (CO), particulate matter/particulate matter with a diameter of less than 10 microns (PM/PM10) and VOC emissions from the Heaters, the

reasons for the changes in emission rate cap contributions are changes in the EPA-developed emission factors (known as AP-42 emission factors) originally used to calculate the Heaters' emission rate cap contributions.

41. When FHR originally calculated cap contributions for emissions of CO, PM/PM10, and VOC from the Heaters, it used emission factors provided in Section 1.4 of a publication issued by EPA known as AP-42.
42. Chapter 1 of AP-42 is related to external combustion sources.
43. Section 1.4 of Chapter 1 of AP-42 contains emission factors associated with natural gas combustion.
44. The values used by FHR for the Heaters come from Tables 1.4-1 and 1.4-2 of Section 1.4.
45. An AP-42 emission factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant.
46. AP-42 emission factors are based on real-world emissions data that is grouped into related clusters based on criteria such as source category, process type, representativeness of the source, emission source, equipment design, operating conditions, and raw material or fuel characteristics.
47. All AP-42 emission factors are based on averages of emissions data.
48. AP-42 emission factors are frequently used by industry and environmental consulting firms to prepare permit applications, and their use is accepted by air permitting authorities such as TCEQ.

49. EPA has reviewed and commented on numerous air permit applications without objecting to the use of AP-42 emission factors to calculate emission rates.
50. For heaters such as those at the West Refinery, there are no emission factors more appropriate to use for calculating emissions in a permit application than those set forth in AP-42.
51. In 1998, EPA updated the AP-42 emission factors in Section 1.4 to incorporate new available data on emissions from gas-fired combustion devices.
52. In light of this intervening update, FHR re-calculated the CO, PM/PM10, and VOC cap contributions for the Heaters in the Application.
53. No changes to the Heaters are being proposed that would affect actual emissions of CO, PM/PM10, and VOC, and the respective calculated cap contributions are being updated only to reflect the 1998 update to the AP-42 emission factors.
54. As a result of FHR's re-calculations based on the 1998 update to the AP-42 emission factors for CO, the CO cap contributions are revised as follows:

CO Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	11.66 lb/hr	51.01 ton/yr	23.98 lb/hr	105.08 ton/yr
Crude Charge Heater	9.22 lb/hr	40.44 ton/yr	18.97 lb/hr	83.17 ton/yr
Crude Vacuum Heater	5.92 lb/hr	25.94 ton/yr	7.99 lb/hr	34.99 ton/yr

55. The caps on CO emissions from all sources covered by the Air Permit total 912.63 lb/hr and 2,747.94 ton/year.
56. CO emissions from the Heaters represent about 8.1% of the site-wide CO cap.

57. After installation of the pollution control projects (low-NOx burners on the West Crude Heaters and a steam injection system on the No. 2 Parex Hot Oil Heater), FHR performed stack tests on emissions of NOx and CO from the Heaters.
58. The results of the stack tests showed that CO emissions from the Heaters were below the calculated emission rate cap contributions of 23.98 lb/hr (No. 2 Parex Hot Oil Heater) and 26.96 lb/hr (West Crude Heaters).
59. CO emissions from the Heaters are also monitored using a CEMS.
60. CEMS data from 2007 and 2008 show that CO emissions from the Heaters are consistently below the calculated emission rate cap contributions.
61. Many of the CEMS readings were negative numbers, meaning that that the analyzer was detecting CO concentrations at the very low end of the analyzer's range.
62. CEMS data and data from the stack tests conducted following installation of the pollution control projects show that the AP-42 emission factors are conservative estimations of CO emissions from the Heaters.
63. As a result of FHR's re-calculations based on the 1998 update to the AP-42 emission factors for PM/PM10, the revised PM/PM10 cap contributions are as follows:

PM/PM10 Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	1.46 lb/hr	6.38 ton/yr	2.17 lb/hr	9.50 ton/yr
Crude Charge Heater	1.16 lb/hr	5.05 ton/yr	1.72 lb/hr	7.53 ton/yr
Crude Vacuum Heater	1.36 lb/hr	5.95 ton/yr	0.72 lb/hr	3.16 ton/yr

64. The caps on PM/PM10 emissions from all sources covered by the Air Permit total 130.91 lb/hr and 548.97 ton/year.

65. PM/PM10 emissions from the Heaters represent about 3.7% of the site-wide PM/PM10 cap.
66. To demonstrate compliance with the site-wide cap, FHR is required to perform monthly calculations based on actual operating parameters such as fuel usage.
67. FHR's monthly calculations demonstrate that actual site-wide PM/PM10 emissions are equal to about half of the site-wide PM/PM10 cap.
68. Because PM/PM10 emissions from the Heaters are such a small percentage of the site-wide PM/PM10 cap (approximately 3.7%), and because there is so much extra space under the site-wide cap as demonstrated by the monthly calculations, even if FHR had underestimated PM/PM10 emissions from the Heaters by a factor of two in calculating the updated cap contribution, the site-wide PM/PM10 cap, which is the only actual limit on PM/PM10 emissions, would still not be exceeded.
69. EPA considers the AP-42 emission factors FHR used to calculate the PM/PM10 cap contributions for the Heaters to overestimate actual particulate matter emissions.
70. As a result of FHR's re-calculations based on the 1998 update to the AP-42 emission factors for VOC, the revised VOC cap contributions are as follows:

VOC Cap Contribution	Previous lb/hr	Previous ton/yr	Revised lb/hr	Revised ton/yr
No. 2 Parex Hot Oil Heater	0.41 lb/hr	1.80 ton/yr	1.57 lb/hr	6.88 ton/yr
Crude Charge Heater	0.33 lb/hr	1.43 ton/yr	1.24 lb/hr	5.45 ton/yr
Crude Vacuum Heater	0.27 lb/hr	1.19 ton/yr	0.52 lb/hr	2.29 ton/yr

71. The site-wide cap on VOC emissions from all sources covered by the Air Permit is 3,498.00 lb/hr and 2,211.08 ton/year.

72. VOC emissions from the Heaters represent about 0.6% of the site-wide VOC cap.
73. FHR's monthly cap compliance calculations demonstrate that actual site-wide VOC emissions are equal to about half the site-wide VOC cap.
74. Because VOC emissions from the Heaters are such a small percentage of the site-wide VOC cap (approximately 0.6%) and because there is so much extra space in the site-wide cap as demonstrated by the monthly calculations, even if FHR had underestimated VOC emissions from the Heaters by a factor of ten in calculating the updated cap contributions, the site-wide VOC cap, which is the only actual limit on VOC emissions, would still not be exceeded.
75. In calculating cap contributions for all pollutants from all heaters at the site, FHR assumed maximum firing rates.
76. Any given heater might go an entire year without firing at its maximum rate, and it would be very unlikely that the approximately 25 heaters at the West Refinery would ever be firing at their maximum rates all at the same time.
77. Therefore, a degree of conservatism is built into the individual cap contributions from the Heaters, and an even higher degree of conservatism is built into the site-wide cap for all combustion devices covered by the Air Permit.
78. As provided for by 30 TEX. ADMIN. CODE §116.716, FHR added an additional 9% "insignificant emission factor" to its calculated cap contributions for the Heaters, which represents another level of conservatism.
79. The presence of PM/PM10 and VOC in the exhaust from a gas-fired heater, like CO, is the result of incomplete combustion of the fuel gas.

80. The more complete the combustion, the less PM/PM10, VOC, and CO emissions; the less complete the combustion, the more PM/PM10, VOC and CO emissions.
81. FHR's CO stack test data and CEMS data can be used as a surrogate for PM/PM10 and VOC data.
82. FHR's CO stack test and CO CEMS data show that the Heaters are achieving complete or near-complete combustion, therefore establishing that the Heaters' PM/PM10 and VOC emission rates are similarly much lower than the updated AP-42 emission factors.
83. Emissions of VOC and PM/PM10 from gas-fired combustion devices such as the Heaters are widely accepted as being insignificant, and neither TCEQ nor any other regulatory agency requires testing of them.
84. Testing of VOC or PM/PM10 emissions from the Heaters is unnecessary because FHR has already tested and continues to monitor CO, which is a surrogate for VOC and PM/PM10.

(2) The FCCU CO Boiler/Scrubber (ammonia)

85. FCCU stands for Fluid Catalytic Cracking Unit.
86. The FCCU process converts gas oils into gasoline, distillate, and other lighter, higher value products.
87. The catalyst is regenerated by burning the coke formed as a byproduct of the cracking reaction.
88. Regeneration gases are routed to the CO Boiler to reduce CO emissions and generate steam.
89. Exhaust from the CO boiler is routed to a caustic scrubber to control particulate matter and sulfur dioxide (SO₂) emissions.

90. In the case of the FCCU CO Boiler/Scrubber, the reason for the new emission rate cap contribution is that operation of the newly installed pollution control equipment (the SNCR system) had resulted in a new category of potential emissions (ammonia), and therefore a new emission rate cap was appropriate.
91. The vast majority (more than 99%) of the total ammonia cap reflects the cap contribution from the FCCU Boiler/Scrubber.
92. SNCR is a post-combustion technology.
93. The SNCR process injects aqueous ammonia, steam, and possibly hydrogen directly into the combustion area of the FCCU CO Boiler/Scrubber and reduces NOx emissions in the flue gas.
94. A side effect sometimes associated with the operation of an SNCR system is the emission of ammonia into the atmosphere, a result of a phenomenon referred to as "ammonia slip."
95. In early 2007, FHR attempted to monitor the ammonia concentration in the stack gases using an analyzer; however, the chemical environment inside the stack inhibited proper operation of the analyzer, and FHR's analyzer vendor acknowledged that the analyzer could not accurately monitor the ammonia concentration.
96. To calculate the new ammonia cap contributions for the FCCU CO Boiler/Scrubber, FHR used an emission factor of 25 parts per million by volume (ppmv) for the short-term lb/hr emission rate, and 15 ppmv for the long-term ton per year (tpy) emission rate.
97. The emission factors of 25 ppmv and 15 ppmv were based on engineering judgment, taking into account the particular characteristics and configuration of the FCCU CO Boiler/Scrubber.

98. As provided for by 30 TEX. ADMIN. CODE §116.716, FHR added an additional 9% “insignificant emission factor” to its calculated ammonia cap contributions for the FCCU CO Boiler/Scrubber.
99. An additional layer of conservatism was included in calculating the ammonia cap contributions for the FCCU CO Boiler/Scrubber by assuming the worst-case FCCU CO Boiler exhaust flow.
100. Because ammonia is highly soluble, the scrubber that controls emissions from the FCCU CO Boiler removes virtually all ammonia in the stack gases prior to their release to the atmosphere.
101. By measuring the concentration of ammonia captured in the scrubber water, using a mass balance approach it is possible to back-calculate the concentration of ammonia in the uncontrolled stack gases, and from that, calculate the concentration of ammonia in the controlled stack gases.
102. Between April 20, 2007, and December 31, 2008, FHR periodically sampled the concentration of ammonia captured in the scrubber water using a spectrometer, and it used this data to calculate ammonia concentrations in the stack gases.
103. FHR’s calculations based on the sampled concentration of ammonia captured in the scrubber demonstrate that the emission factors used to calculate the ammonia emission rate for the FCCU CO Boiler/Scrubber are conservative and that actual ammonia emissions are well below the FCCU CO Boiler/Scrubber’s cap contributions.

(3) The FCCU Fugitives (ammonia)

104. In the case of the FCCU fugitives, the reason for the new cap contribution is that operation of the newly installed pollution control equipment (the SNCR system) had

resulted in the potential for a small amount of fugitive ammonia emissions associated with the piping, connectors, valves and other components associated with the SNCR system (the FCCU Fugitives), and therefore a new emission rate cap was appropriate.

105. The ammonia cap contributions from the FCCU Fugitives represent less than 1% of the total ammonia cap.
106. To calculate the new ammonia cap contributions for the FCCU Fugitives, FHR used emission factors of 0.059 lb/hr/source for valves in ammonia gas/vapor service, 0.024 lb/hr/source for valves in liquid ammonia service, 0.251 lb/hr/source for pumps in ammonia light liquid service, 0.36 lb/hr/source for relief valves in ammonia service, 0.000555 lb/hr/source for flanges in ammonia service, and 0.0027 lb/hr/source for process drains in ammonia service.
107. To calculate the new ammonia cap contributions for the FCCU Fugitives, FHR used the emissions factors from EPA's "Protocol for Equipment Leak Emission Estimates."
108. The emission factors used to calculate the new ammonia cap contributions for the FCCU Fugitives are restated in a TCEQ guidance document entitled, "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives."
109. The emission factors used to calculate the new ammonia cap contributions for the FCCU Fugitives are acceptable emission factors for TCEQ permitting purposes.
110. As explained in EPA's Protocol for Equipment Leak Emission Estimates, the emission factors used to calculate the new ammonia cap contributions for the FCCU Fugitives are the result of detailed information gathering and data analysis, and are intended by EPA for general use in generating unit-specific emission estimates for permitting and inventories.

111. Although the protocol does not contain emission factors specific to ammonia, TCEQ recognizes that the emission factors used to calculate the new ammonia cap contributions for the FCCU Fugitives are the best tool available for calculating fugitive ammonia emissions and recommends their use for this purpose.
112. As provided for by 30 TEX. ADMIN. CODE §116.716, FHR added an additional 9% “insignificant emission factor” to its calculated ammonia cap contributions for the FCCU Fugitives.
113. Each day, FHR operators conduct audio, visual, and olfactory (AVO) monitoring of the FCCU Fugitives to check for gaseous and liquid ammonia leaks.
114. AVO monitoring of the FCCU Fugitives is required by Special Condition No. 25 of the Air Permit.
115. Given the nature of the monitoring, the distinct odor of ammonia, and the ability to visually detect liquid ammonia leaks, AVO monitoring is extremely effective in detecting any ammonia leaks that might occur from the FCCU Fugitives.
116. To calculate the new ammonia cap contributions for the FCCU Fugitives, FHR applied control efficiencies for each component type to account for the fact that FHR monitors the FCCU Fugitives using an AVO monitoring program.
117. FHR’s application of control efficiencies to calculate the new ammonia cap contributions for the FCCU Fugitives is consistent with TCEQ guidance and practice.
118. A review of work order and emission release documentation dating back to November 2006 indicates that there have been no fugitive ammonia leaks associated with the FCCU Fugitives over the more than two years of operation of the SNCR system.

119. The fugitive emission factors used by FHR to calculate the new ammonia cap contributions for the FCCU Fugitives are based on the assumption that a certain percentage of the fugitive components leak, and this holds true even when the monitoring-based control efficiencies are applied.
120. No leaks associated with the FCCU Fugitives have been detected during the more than two years of operation of the SNCR system, which indicates that actual emissions from the FCCU Fugitives are less than the ammonia cap contributions.

(4) Tank 08FB17 (VOC)

121. Tank 08FB17 is one of almost 200 individual tanks at the West Refinery used to store various substances.
122. Tank 08FB17 was previously used primarily to store a type of jet/aviation fuel called "Jet A;" however, it is now used to store the reformate feed for the UDEX unit, which uses solvent extraction to recover aromatics from reformate.
123. In the case of Tank 08FB17, the reason for the change in the emission rate cap contribution is that a floating roof had been installed and FHR had started using the tank for the storage of UDEX reformate, whereas the pre-amendment pound-per-hour (lb/hr) cap contribution was based on the tank being a fixed-roof tank and storing different materials.
124. Emission factors were not used to calculate the VOC emission rate cap contributions for Tank 08FB17.
125. Equations based on tank physical characteristics and material properties were used to calculate the VOC emission rate cap contributions for Tank 08FB17.

126. The source of the equations used to calculate the VOC emission rate cap contributions for Tank 08FB17 is AP-42, Chapter 7 (version dated September 1997).
127. The equations used to calculate the VOC emission rate cap contributions for Tank 08FB17 are universally accepted and are the only viable method available for calculating emissions from tanks equipped with a floating roof such as Tank 08FB17.
128. Flint Hills Resources, LP's use of emission factors with regard to the changes requested in the Application and the changes in the proposed Special Conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits.

C. Whether the monitoring requirements that are proposed for change in the amendment application or changed in the proposed special conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.

129. Most of the monitoring requirements that are proposed for change in the Application or changed in the proposed special conditions or MAERT are unrelated to the six projects that are the subject of the Application, and the changes are being proposed either to make certain monitoring requirements more stringent, or simply to clarify the meaning of some of the monitoring provisions.
130. The only monitoring requirements proposed for change in the Application or changed in the proposed special conditions or MAERT that are used to determine compliance with permit limits are those found in:
 - A) Special Conditions Nos. 54, 59.B and 60.J (Special Conditions Nos. 53, 58.B and 59.J in the draft amended permit);
 - B) Special Condition No. 53 (Special Condition No. 52 in the draft amended permit); and
 - C) Special Condition No. 59 (Special Condition No. 58 in the draft amended permit).

(1) Special Conditions Nos. 54, 59.B and 60.J (Special Conditions Nos. 53, 58.B and 59.J in the draft amended permit)

131. In Special Conditions Nos. 54, 59.B and 60.J (Special Conditions Nos. 53, 58.B and 59.J in the draft amended permit), the ED proposes to add language that would allow monitoring via instrumentation devices (pH meters, pressure instrumentation, etc.) to have up to 5% invalid data on a 12-month basis without violating the monitoring requirement.
132. The proposed changes to Special Conditions Nos. 54, 59.B and 60.J (Special Conditions Nos. 53, 58.B and 59.J in the draft amended permit) are unrelated to the changes requested in the Application.
133. In the context of Special Conditions Nos. 54, 59.B and 60.J (Special Conditions Nos. 53, 58.B and 59.J in the draft amended permit), “invalid data” refers to data that is unusable because the respective analyzer or meter was not functioning properly when the data was collected.
134. The fuel and gas flow data measured in accordance with Special Conditions Nos. 59.B and 60.J (Special Conditions Nos. 58.B and 59.J in the draft amended permit) are inputs in calculations used to determine the monthly cap contributions for the Gas Turbine Cogeneration Facility and the CCR Platformer Regeneration Vent Scrubber, respectively.
135. The proposed change to Special Conditions Nos. 59.B and 60.J (Special Conditions Nos. 58.B and 59.J in the draft amended permit), to allow up to 5% invalid data, will not affect the quality or quantity of data collected or used in these calculations, because FHR does not utilize invalid data to demonstrate compliance under the present permit condition.
136. No change is being proposed to Special Conditions Nos. 59.B and 60.J (Special Conditions Nos. 58.B and 59.J in the draft amended permit) that would affect the

adequacy of these provisions in determining compliance with permit limits, because in both provisions, fuel and gas flows are required to be measured continuously.

(2) Special Condition No. 53 (Special Condition No. 52 in the draft amended permit).

137. In Special Condition No. 53 (Special Condition No. 52 in the draft amended permit), TCEQ proposes to add the Heaters to the list of emission points subject to a CEMS requirement.
138. The NO_x CEMS were added to the Heaters to comply with the April 25, 2001 EPA Consent Decree.
139. Although not required, the CO CEMS was added at the same time at FHR's initiative.
140. The change to Special Condition No. 52 in the draft amended permit is being proposed simply to reflect that these CEMS were installed and are currently operating at the site.
141. CEMS data is used to demonstrate compliance with the Heaters' hourly NO_x limit of 0.045 lb/MMBtu.
142. CEMS data is also used to calculate the Heaters' monthly NO_x and CO cap contributions.
143. The use of CEMS is sufficient to determine compliance with the Heaters' NO_x limit and calculate the Heaters' monthly NO_x and CO cap contributions, as a CEMS is the most reliable method of measuring emissions.

(3) Special Condition No. 59 (Special Condition No. 58 in the draft amended permit).

144. In Special Condition No. 59 (Special Condition No. 58 in the draft amended permit), the ED proposes to revise the language regarding the monitoring of fuel gas for sulfur and nitrogen content at the Gas Turbine Cogeneration Facility to update the reference to a subsection of the applicable federal rule, 40 C.F.R. § 60.334(h), setting forth monitoring

requirements for sources subject to EPA's New Source Performance Standards for Stationary Gas Turbines.

145. The proposed change to Special Condition No. 59 (Special Condition No. 58 in the draft amended permit) is unrelated to changes requested in the Application, and is being proposed only to reflect a revision to a federal rule.
146. The sulfur content data collected by the monitoring referenced in Special Condition No. 59 (Special Condition No. 58 in the draft amended permit) is an input in a calculation used to determine the monthly SO₂ cap contribution for the Gas Turbine Cogeneration Facility.
147. The proposed change to Special Condition No. 59 (Special Condition No. 58 in the draft amended permit) will have no effect on how the monitoring is conducted, because the monitoring conducted by FHR complies with both the previously applicable rule provision cited in the current version of the permit (§ 60.334(b)), and the currently applicable rule provision cited in the proposed version of the permit (§ 60.334(h)).
148. No change to Special Condition No. 59 (Special Condition No. 58 in the draft amended permit) is being proposed that would affect the adequacy of this provision in determining compliance with permit limits, because in promulgating the NSPS for this type of source, EPA expressly approved of the monitoring of fuel gas for sulfur content as an appropriate method for determining SO₂ emissions.
149. The monitoring requirements that are proposed for change in the Application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.

D. Allocation of Transcript Costs

150. FHR has incurred transcription costs in the amount of \$2,325.50 for the pre-hearing conference and evidentiary hearing in this matter.
151. The ALJ ordered the transcript.
152. CFEJ is a small community action group with little or no income or assets. After reviewing CFEJ for income eligibility, Texas Rio Grande Legal Aide (TRLA) agreed to provide CFEJ with free legal services without contingency.
153. FHR is a for-profit corporate entity and clearly has the greatest financial ability to pay costs.
154. CFEJ was the only protestant and fully participated in the hearing.
155. Although some minor straying from the Commission's referred orders occurred, the questioning of witnesses by the parties was generally to the point and directed toward relevant issues.
156. FHR presented three witnesses in its direct case and recalled two of these witnesses for its rebuttal case. CFEJ and the ED each called one witness. CFEJ prefiled testimony from a second witness, but much of that testimony was stricken and CFEJ elected not present that witness at the hearing.
157. The extent of participation by all parties was appropriate, and none of the parties unduly burdened the transcript with unnecessary questioning of witnesses.
158. Although all parties benefited from having a transcript, as the party bearing the burden of proof, FHR had the greatest potential benefit from an ability to cite and reassemble the information within the record.

159. The broad responsibilities and limited budgets of the agency parties in this case make it unreasonable to assess costs against them. The Commission's rules also preclude the assessment of costs against parties that cannot appeal a Commission decision (the ED and OPIC).
160. Although the ALJ did not accept the arguments made by CFEJ, all parties had plausible, good-faith arguments for the issues they raised.
161. Considering the financial ability of FHR and the benefit it received from having a transcript, it is appropriate to assess all transcript costs to FHR.

II. CONCLUSIONS OF LAW

1. The Commission has jurisdiction over this matter pursuant to TEX. HEALTH & SAFETY CODE Chapter 382 and TEX. WATER CODE Chapter 5.
2. SOAH has jurisdiction over matters related to the hearing in this matter, including authority to issue a Proposal for Decision with Findings of Fact and Conclusions of Law pursuant to TEX. GOV'T CODE ANN Ch. 2003.
3. Notice of FHR's Application was provided pursuant to 30 TEX. ADMIN. CODE § 39.601, *et seq.*, and TEX. GOV'T CODE ANN. §§ 2001.051 and 2001.052.
4. The proceedings described in this Order were conducted in accordance with applicable law and rules of the TCEQ, specifically 30 TEX. ADMIN. CODE § 80.1 *et seq.*, and the State Office of Administrative Hearings, specifically 1 TEX. ADMIN. CODE § 155.1 *et seq.*
5. Flint Hills Resources, LP's use of emission factors with regard to the changes requested in the Application or the changes in the proposed Special Conditions and MAERT is adequate to assure compliance with all related applicable requirements and limits.

6. The monitoring requirements that are proposed for change in the Application or changed in the proposed Special Conditions or MAERT, as applicable, are sufficient to determine compliance with the permit limits.
7. The transcript costs should be paid by Flint Hills Resources, LP.
8. In accordance with 30 TEX. ADMIN. CODE § 50.117, the Commission issues this Order and the attached permit as its single decision on the permit amendment application. Information in the agency record of this matter, which includes evidence admitted at the hearing and part of the evidentiary record, documents the Executive Director's review of the permit amendment application, including that part not subject to a contested case hearing, and establishes that the terms of the final version of the attached permit are appropriate and satisfy all applicable federal and state requirements.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, IN ACCORDANCE WITH THESE FINDINGS OF FACT AND CONCLUSIONS OF LAW THAT:

1. Flint Hills Resources, LP's application to amend Air Permit Nos. 8803A and PSD-TX-413M9 is granted.
2. All other motions, requests for specific Findings of Fact or Conclusions of Law, and other requests for general and specific relief, if not expressly granted herein, are hereby denied for want of merit.
3. The effective date of this Order is the date the Order is final, as provided by 30 TEX. ADMIN. CODE § 80.273 and § 2001.144 of the Texas Administrative Procedure Act, TEX. GOV'T CODE ANN.

4. The Commission adopts the Executive Director's Response to Public Comment in accordance with 30 TEX. ADMIN. CODE § 50.117. Also, in accordance with Section 50.117, the Commission issues this Order and the attached as its single decision on the permit amendment application. Information in the agency record of this matter, which includes evidence admitted at the hearing and part of the evidentiary record, documents the Executive Director's review of the permit amendment application, including that part not subject to a contested case hearing, and establishes that the terms of the attached permit are appropriate and satisfy all applicable federal and state requirements.
5. - The Chief Clerk of the Commission shall forward a copy of this Order to all parties.
6. If any provision, sentence, clause, or phrase of this Order is for any reason held to be invalid, the invalidity of any portion shall not affect the validity of the remaining portions of this Order.

Issued:

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

Buddy Garcia, Chairman

