

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1433-AOP-R6 AFIN: 02-00065

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

CenterPoint Energy - Mississippi River Transmission LLC.- Fountain Hill Compressor Station
409 Ashley 8 Road
Hamburg, Arkansas 71646

3. PERMIT WRITER:

Parviz Mokhtari

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Pipeline Transportation of Natural Gas
NAICS Code: 486210

5. SUBMITTALS:

10/25/2010

6. REVIEWER'S NOTES:

CenterPoint Energy - Mississippi River Transmission (MRT) Corporation owns and operates the Fountain Hill Natural Gas Compressor Station located in Hamburg, Ashley County, Arkansas. This permitting action is necessary to:

- Install a Non-Selective Catalyst Reduction (NSCR) system to each one of the following Compressor Engines (SN-01, SN-02, SN-03, SN-04, SN-05, and SN-08) to reduce formaldehyde current emissions by 76% in accordance with 40 CFR 63 Subpart ZZZZ.
- Incorporate the applicable requirements of 40 CFR Part 63, Subpart ZZZZ for SN-01 through SN-10.

After installation of NSCR, the total permitted annual formaldehyde emission rate limit will decrease by 3.45tons per year (tpy).

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues. There are no known active/pending enforcement activities regarding this facility. The Fountain Hill Compressor Station plans to comply with all future regulatory requirements.

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b. Is the facility categorized as a major source for PSD? N

Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

If yes, explain why this permit modification not PSD? There is not increase in the emissions.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-01 through SN-10	Formaldehyde	NESHAP ZZZZ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	1.0	50	Annual	*20.2	40.4
		150	24-Hour	*28.1	18.7
SO ₂	< 100 tpy	80	Annual	N/A	N/A
		1300	3-Hour	N/A	N/A
		365	24-Hour	N/A	N/A
VOC	N/A	0.12	1-Hour (ppm)	N/A	N/A

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
CO	306.8	10,000	8-Hour	1436.5	14.4
		40,000	1-Hour	2814.2	7.0
NO _x	257.7	100	Annual	64.17	64.2
Pb	N/A	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	N/A	N/A

Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Formaldehyde	1.5	0.170	1.12	N
Methanol	262	28.82	0.18	Y
Acetaldehyde	45	4.95	0.18	Y
Benzene	1.6	0.18	0.1	Y
Toluene	188.4	20.72	0.08	Y
Acrolein	0.23	0.03	0.18	N

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Formaldehyde	15	2.35* 1.83**	Y
Acrolein	2.3	0.41	Y

* From 1433-AOP-R5 (Before Installation of NSCR)

** After Installation of NSCR

Other Modeling: None

Odor: N/A

H₂S Modeling: N/A

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equip.	Control Equipment Efficiency	Comments
01 to 05 and 07 to 08	NO _x & CO: Stack test data. VOC, PM ₁₀ , SO ₂ (AP-42, 7/00, table 3.2-3)	g/hp-hr NO _x -15.9 CO -18.64 lb/MMBtu PM/PM ₁₀ - 9.5E-3 SO ₂ - 2.96E-2 VOC - 2.96E-2	None	These sources shall be tested for CO & NO _x emissions. Uncontrolled	
06	NO _x & CO: Stack test data. VOC, PM ₁₀ , SO ₂ (AP-42, 7/00, table 3.2-3)	g/hp-hr NO _x -1.795 CO -1.864 lb/MMBtu PM/PM ₁₀ - 9.5E-3 SO ₂ - 2.96E-2 VOC - 2.96E-2	NSCR/ AFRC	95% - NO _x 90% - CO	
01 to 08	HAPs: GRI-HAPCalc 3.01	g/hp-hr Form. - 6.77E-2 Acet. - 9.2E-3 Acarol. - 8.7E-3 Benzene - 1.01E-2 Methanol - 5.2E-3 Toluene - 1.8E-3	None	Uncontrolled	
09 & 10	NO _x , CO, VOC, PM ₁₀ & SO ₂ : (AP-42, 7/00, table 3.2-3)	lb/MMBtu PM/PM ₁₀ - 9.5E-3 NO _x - 2.27 CO - 3.72	None	Test SN-09 one time to determine compliance for CO & NO _x .	

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equip.	Control Equipment Efficiency	Comments
		SO ₂ - 2.96E-2 VOC - 2.96E-2			
09 & 10	HAPs: GRI-HAPCalc 3.01	g/hp-hr Form. - 6.77E-2 Acet. - 9.2E-3 Acarol. - 8.7E-3 Benzene - 1.01E-2 Methanol - 5.2E-3 Toluene - 1.8E-3	None	Uncontrolled	

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 to 08	NOX and CO	7E and 10	Upon permit issuance and Title V renewal	Compressor stations are required to test one half of each type of engine every five years.
Plantwide	Total Sulfur (SO ₂)	Methods outlined in section 2.3.5 or 2.3.3.1.2 of 40 CFR Part 75, Appendix D	Within 180 days of permit issuance and every five years	Department Guidance
01 thru 08	Formaldehyde	Method 320 or 323 or others as specified by regulation	Initial	Verify lb/hr emission rate limit after installation of NSCR NESHAP Subpart ZZZZ
01 thru 08	Formaldehyde	Method 320 or 323 or others as specified by regulation	Initial and every 8,760 hours or 3 years, whichever comes first	NESHAP Subpart ZZZZ

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
01 thru 08	Catalyst Inlet Temperature	CPMS	Continuously, 4-hour rolling average	Y

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01-06	Catalyst Inlet Temperature	750°F - 1250°F	Continuously	Y
01 thru 08	Pressure Drop across Catalyst	No more than ±2 inches of water at 100% load; 10% from the pressure drop across the catalyst measured during the initial performance test	Once per month	Y
01 thru 10	Records required by 63.6655	N/A	N/A	Y
01 thru 10	Maintenance Conducted	N/A	N/A	Y
09 and 10	Hours of operation and documentation for emergency hours	100 hr/yr for maintenance and readiness testing; 50 hr/yr for non-emergency but counted as part of the 100 hr/yr above	As Needed	Y

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
09	Operating Hours	2160 hours	Consecutive 12 month	N
10	Operating Hours	876 hours	Consecutive 12 months	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01 thru 10	5%	Department Guidance	Natural Gas Fuel Only

17. DELETED CONDITIONS:

Former SC	Justification for removal
	NONE

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Slop Tank (2 @ 4200 gal)	3	----	----	0.18	----	----	----	----
Slop Tank (8820 gal)	3	----	----	0.18	----	----	----	----
Used Oil Tank (1008 gal)	3	----	----	----	----	----	----	----
Used Solvent Tank (1008 gal)	3	----	----	0.02	----	----	----	----
Diesel Tank (105 gal)	3	----	----	----	----	----	----	----
Gasoline Tank (105 gal)	3	----	----	0.1	----	----	----	----
Kerosene Tank (105 gal)	3	----	----	----	----	----	----	----
Glycol Tank (105 gal)	3	----	----	----	----	----	----	----
Antifreeze Mix Tank (8820 gal)	3	----	----	----	----	----	----	----
Wastewater Tank (8820 gal)	3	----	----	0.18	----	----	----	----
Wastewater Tank (8820 gal)	3	----	----	0.18	----	----	----	----
Slop Tank (10038 gal)	13	----	----	0.23	----	----	----	----

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Lube Oil Tank (11298 gal)	13	----	----	0.01	----	----	----	----
Smart Ash Incinerator	13	----	----	----	----	----	----	----
Piping Component Fugitive Emissions	13	----	----	1.8	----	----	0.05	0.09
Condensate Truck Loading	13	----	----	----	----	----	----	----

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1433-AOP-R5

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-01-10

Facility Name: CenterPoint Energy - Fountain Hill
 Compressor Station
 Permit Number: 1433-AOP-R6
 AFIN: 02-00065

\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	858
Permit Type	Modification	Permit Fee \$	1000

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source or Minor Source General Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM:

Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride

Air Contaminants:

All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	<input checked="" type="checkbox"/>	2.6	2.6	0	0	2.6
PM ₁₀	<input type="checkbox"/>	2.6	2.6	0		
SO ₂	<input checked="" type="checkbox"/>	1	1	0	0	1
VOC	<input checked="" type="checkbox"/>	8.2	8.2	0	0	8.2
CO	<input type="checkbox"/>	995.1	995.1	0		
NO _x	<input checked="" type="checkbox"/>	846.2	846.2	0	0	846.2
*Formaldehyde	<input type="checkbox"/>	4.63	1.18	-3.45		
*Methanol	<input type="checkbox"/>	0.74	0.74	0		
*Acetaldehyde	<input type="checkbox"/>	0.74	0.74	0		
*Benzene	<input type="checkbox"/>	0.34	0.34	0		
*Toluene	<input type="checkbox"/>	0.16	0.16	0		
*Acrolein	<input type="checkbox"/>	0.58	0.58	0		