

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1513-AOP-R3 AFIN: 61-00076

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

CenterPoint Energy - Mississippi River Transmission Corp. - Biggers Compressor Station  
278 Gas Plant Road  
Biggers, Arkansas 72413

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

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

5. SUBMITTALS:

10/29/2009

6. REVIEWER'S NOTES:

CenterPoint Energy - Mississippi River Transmission Corporation owns and operates the Biggers Natural Gas Compressor Station which is located in Biggers, Randolph County, Arkansas. This is the second Title V renewal for the facility. The facility has requested to add a 4,700 gallon wastewater storage tank to the A-3 Insignificant Activities list as an Administrative Amendment. The total permitted emissions include 4.9 tpy of PM/PM<sub>10</sub>, 1.4 tpy of SO<sub>2</sub>, 11 tpy of VOC, 1230.7 tpy of CO, and 1205.3 tpy of NO<sub>x</sub>.

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 current or pending enforcement actions.

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?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-11	SO <sub>2</sub> and NO <sub>x</sub>	NSPS Subpart GG

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard (µg/m <sup>3</sup> )	Averaging Time	Highest Concentration (µg/m <sup>3</sup> )	% of NAAQS
PM <sub>10</sub>	1.9	50	Annual	0.38998	0.8 %
		150	24-Hour	4.06825	2.8 %
SO <sub>2</sub>	1.1	80	Annual	0.30114	0.4 %
		1300	3-Hour	6.86558	0.6 %
		365	24-Hour	3.08009	0.9 %
VOC	2.9	0.12	1-Hour (ppm)	N/A	N/A
CO	296.0	10,000	8-Hour	1412.31127	14.2 %
		40,000	1-Hour	2028.04226	5.1 %
NO <sub>x</sub>	297.7	100	Annual	47.64494	47.7 %

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
Pb	N/A	0.15	Rolling 3-month Period over 3 years	N/A	N/A

Non-Criteria Pollutants:

1<sup>st</sup> 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 ( $\text{mg}/\text{m}^3$ ), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV ( $\text{mg}/\text{m}^3$ )	PAER (lb/hr) = $0.11 \times \text{TLV}$	Proposed lb/hr	Pass?
Acetaldehyde	45	4.95	0.43	Yes
Acrolein	0.229	0.025	0.18	NO
Benzene	1.59	0.175	0.15	Yes
Formaldehyde	1.5	0.165	1.24	NO
Methanol	262	28.8	0.20	Yes
Toluene	75	8.28	0.09	Yes
1,3 Butadiene	4.42	0.48	0.09	Yes

2<sup>nd</sup> 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?
Acrolein	2.29	0.47626	YES
Formaldehyde	15.0	2.62697	YES

Other Modeling:

Odor:

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Styrene	1361 $\mu\text{g}/\text{m}^3$	N/A	N/A

H<sub>2</sub>S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H<sub>2</sub>S Standards N/A

If exempt, explain: \_\_\_\_\_

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H <sub>2</sub> S	20 parts per million (5-minute average*)	N/A	N/A
	80 parts per billion (8-hour average) residential area	N/A	N/A
	100 parts per billion (8-hour average) nonresidential area	N/A	N/A

\*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C<sub>p</sub> = 5-minute average concentration

C<sub>m</sub> = 1-hour average concentration

t<sub>m</sub> = 60 minutes

t<sub>p</sub> = 5 minutes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01, 02, 04, 05, 06, & 07	NO <sub>x</sub> & CO per testing.  VOC, PM10 & SO2 per AP-42 (7/00, 3.2-3)	lb/hr: 44.90 CO 42.20 NO <sub>x</sub>  lb/MMBtu: 2.96E-02 VOC 9.50E-03 PM <sub>10</sub> 5.88E-04 SO <sub>2</sub>	N/A	N/A	HAP emissions are from GRI-HAPCalc 3.01 factors.
09	NO <sub>x</sub> , CO, VOC, PM10 & SO2 per AP-42 (7/00, 3.2-3)	lb/MMBtu: 2.27 NO <sub>x</sub> 3.72 CO 2.96E-02 VOC 9.50E-03 PM <sub>10</sub> 5.88E-04 SO <sub>2</sub>	N/A	N/A	HAP emissions are from GRI-HAPCalc 3.01 factors.
11	NO <sub>x</sub> & CO per testing.  VOC, PM10 & SO2 per AP-42 (7/00, 3.1-2a)	lb/hr: 32.50 NO <sub>x</sub> 7.00 CO  lb/MMBtu: 2.10E-03 VOC 6.60E-03 PM <sub>10</sub> 3.40E-03 SO <sub>2</sub>	N/A	N/A	HAP emissions are from GRI-HAPCalc 3.01 factors.
12	NO <sub>x</sub> , CO, VOC, PM10 & SO2 per AP-42 (7/00, 3.2-3)	lb/MMBtu: 2.27 NO <sub>x</sub> 3.72 CO 2.10E-02 VOC 9.50E-03 PM <sub>10</sub> 5.88E-04 SO <sub>2</sub>	N/A	N/A	HAP emissions are from GRI-HAPCalc 3.01 factors.

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01, 02, & 04	NO <sub>x</sub> & CO	7E & 10	One half of every engine every five years	Department Guidance

SN	Pollutants	Test Method	Test Interval	Justification
05, 06, & 07	NO <sub>x</sub> & CO	7E & 10	One half of every engine every five years	Department Guidance
11	NO <sub>x</sub> & CO	20 & 10	Every five years	Department Guidance
Plantwide	Total Sulfur (SO <sub>2</sub> )	Methods outlined in section 2.3.5 or 2.3.3.1.2 of 40 CFR Part 75, Appendix D	Every five years	Department Guidance

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)
11	Fuel sulfur content	As specified in NSPS Subpart GG	Continuously	N
	Fuel nitrogen content	As specified in NSPS Subpart GG	Continuously	N

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)
09	Hours of Operation	4,032 hrs per any consecutive 12-month period	Monthly	N
11	NO <sub>x</sub> emissions	230 ppm	Continuously	N
	Fuel sulfur content	0.8% by wt.	Continuously	N
	Hours of Operation	4,600 hrs per any consecutive 12-month period	Monthly	N
12	Hours of Operation	500 hrs per any consecutive 12-month period	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
Plantwide	5 %	Department Guidance	Combustion of natural gas only

17. DELETED CONDITIONS:

Former SC	Justification for removal
PWC 11	This condition has been combined with PWC 9.
PWC 12	This condition has been revised to incorporate recent language changes.

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
0.1 MMBtu/hr Boiler	A-1	0.003	0.001	0.002	0.004	0.04		
<b>Total</b>	<b>A-1</b>	<b>0.003</b>	<b>0.001</b>	<b>0.002</b>	<b>0.004</b>	<b>0.04</b>		
Methanol Tank (168 gal)	A-2			0.01			0.01	0.01
Kerosene Tank (168 gal)	A-2			0.001				
<b>Total</b>	<b>A-2</b>			<b>0.011</b>			<b>0.01</b>	<b>0.01</b>
Used Oil Tank (1,176 gal)	A-3			0.001				
Entrained Liquids Tank (7,518 gal)	A-3			0.04				
Antifreeze Tank (4,200 gal)	A-3			0.001				
Antifreeze Mix Tank (7,000 gal)	A-3			0.001				
Diesel Tank (1,134 gal)	A-3			0.001				
Waste Water Tank (4,700)	A-3			0.07				
<b>Total</b>	<b>A-3</b>			<b>0.114</b>				

Source Name	Group A Category	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Piping Component Fugitives	A-13			0.19				
Engine blowdowns	A-13			0.10				
Oil Storage Tank (11,298 gal)	A-13			0.01				
Gasoline Tank (548 gal)	A-13			0.19				
Smart Ash Incinerator	A-13	0.27		0.008	0.36			
<b>Total</b>	<b>A-13</b>	<b>0.27</b>		<b>0.498</b>	<b>0.36</b>			

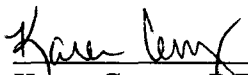
19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1513-AOP-R2

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

  
 \_\_\_\_\_  
 Karen Cerney, P.E.



**APPENDIX A – EMISSION CHANGES AND FEE CALCULATION**

## Fee Calculation for Major Source

Revised 07-27-09

Facility Name: CenterPoint Energy - Biggers Compressor  
 Station  
 Permit Number: 1513-AOP-R3  
 AFIN: 61-00076

\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	1222.6
Permit Type	Renewal No Changes	Permit Fee \$	0

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
Check if Facility Holds an Active Minor Source Permit	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	0.3
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"/>	5.6	4.9	-0.7	-0.7	4.9
PM <sub>10</sub>	<input type="checkbox"/>	5.6	4.9	-0.7		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	1	1.4	0.4	0.4	1.4
VOC	<input checked="" type="checkbox"/>	10.9	11	0.1	0.1	11
CO	<input type="checkbox"/>	1230.4	1230.7	0.3		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	1204.8	1205.3	0.5	0.5	1205.3
Acetaldehyde*	<input type="checkbox"/>	1.11	1.12	0.01		
Acrolein*	<input type="checkbox"/>	0.53	0.61	0.08		
Benzene*	<input type="checkbox"/>	0.35	0.4	0.05		
Formaldehyde*	<input type="checkbox"/>	5.52	4.76	-0.76		
Methanol*	<input type="checkbox"/>	0.65	0.66	0.01		
Toluene*	<input type="checkbox"/>	0.14	0.16	0.02		
1,3-Butadiene*	<input type="checkbox"/>	0	0.21	0.21		