

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1450-AOP-R5 AFIN: 24-00104

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Black Hills Energy Arkansas, Inc. - Lone Elm Compressor Station  
4511 Dogwood Lane  
Ozark, Arkansas 72949

3. PERMIT WRITER:

Ann Sudmeyer

4. NAICS DESCRIPTION AND CODE:

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

5. ALL SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
4/21/2017	Administrative Amendment	N/A

6. REVIEWER'S NOTES:

Black Hills Energy Arkansas, Inc. - Lone Elm Compressor Station operates a natural gas compressor station (AFIN: 24-00104) located at 4511 Dogwood Lane, Ozark, Arkansas 72949. This permitting action is necessary to change the name from SourceGas Arkansas Inc. (Lone Elm Compressor Station) to Black Hills Energy Arkansas, Inc. - Lone Elm Compressor Station. In addition, the contact information was updated. No other changes or items were reviewed.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

This facility was last inspected on May 2, 2017 and was found to be in compliance.

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  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
SN-01	There are no specific emission limits or pollutants identified, but the rules generally regulate HAPs. At the time of issuance of Permit 1450-AOP-R4, SN-01 was classified as a remote engine according 40 CFR Part 63, Subpart ZZZZ. The facility is required to annually verify that the engine is still classified as a remote engine, see Specific Condition 10.	40 C.F.R. § 63 Subpart ZZZZ

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved.

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated in a previous permit. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

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 (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,3-Butadiene	4.4	0.48	0.01	Yes
Acrolein	0.229 <sup>a</sup>	0.025	0.04	No
Formaldehyde	0.368 <sup>a</sup>	0.04	0.10	No

a. STEL value

The above information was obtained from the statement of basis for 1450-AOP-R4.

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 (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Acrolein	2.29	0.83362	Yes
Formaldehyde	15 <sup>a</sup>	2.08404	Yes

a. Alternate PAIL, see Permit Guidance Manual.

The above information was obtained from the statement of basis for 1450-AOP-R4.

c) 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	Mfg Spec. for NO <sub>x</sub> , CO, and VOC  AP-42 for PM, PM <sub>10</sub> , SO <sub>2</sub> , and HAPs	g/hp-hr: 22 NO <sub>x</sub> 1.5 CO 0.25 VOC  lb/MMBtu 0.0095 PM <sub>10</sub> 0.000588 SO <sub>2</sub>	None		Uncontrolled

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	NO <sub>x</sub> CO	7E 10	No later than August 2, 2016, and once every 60 months thereafter.	Necessary to verify emissions
Plantwide	Total Sulfur	40 CFR Part 75, Appendix D section 2.3.5 or 2.3.3.1.2	Once every 5 years (Initial testing completed on 12/29/08)	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)
N/A				

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	Fuel used	Natural gas only	Continuously	N
01	Engine maintenance	Change oil and filter every 2,160 hours of operation, or annually, whichever comes first; Inspect air cleaner every 2,160 hours of	As needed	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		operation or annually, whichever comes first; and Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.		

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01	5 %	Natural Gas Combustion	At inspection

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

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
550 gallon Lube Oil Storage Tank	A-3			0.03				
6,300 gallon Production Fluid Collection Tank	A-3			0.01				
Blowdowns	A-13			0.01				
Fugitive Emissions	A-13			0.6			0.02	0.02

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19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

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## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 03-11-16

Black Hills Energy Arkansas, Inc. - Lone Elm  
Compressor Station  
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\$/ton factor		23.93	Annual Chargeable Emissions (tpy)	193.9
Permit Type	AA		Permit Fee \$	0

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		1.2	1.2	0	0	1.2
PM <sub>10</sub>		0.6	0.6	0		
PM <sub>2.5</sub>		0	0	0		
SO <sub>2</sub>		0.1	0.1	0	0	0.1
VOC		2.2	2.2	0	0	2.2
CO		13	13	0		
NO <sub>x</sub>		190.4	190.4	0	0	190.4
1,3-Butadiene	<input type="checkbox"/>	0.05	0.05	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Acrolein	<input type="checkbox"/>	0.16	0.16	0		
Formaldehyde	<input type="checkbox"/>	0.44	0.44	0		