

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1450-AOP-R6 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:

Joseph Hurt

4. NAICS DESCRIPTION AND CODE:

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

5. ALL SUBMITTALS:

The following is a list of ALL permit applications included in this permit revision.

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
2/20/2018	Renewal	N/A

6. REVIEWER'S NOTES:

This permitting action is necessary to renew the facility's Title V permit. Specific Condition 6 of the previous permit has been removed as this condition is no longer required to ensure compliance with the SO₂ emissions. The permitted emission decreases included 0.6 tpy of PM.

7. COMPLIANCE STATUS:

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

The facility was last inspected on May 2, 2017. No areas of concern or comments were left by the inspector. A review of ECHO indicates no violations, enforcement actions, or penalties against the facility in the last five (5) years.

8. PSD/GHG APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N
 If yes, were GHG emission increases significant? 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 for 8(b), 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-R6, SN-01 is classified as a remote engine according 40 C.F.R. § 63, Subpart ZZZZ. The facility is required to annually verify that the engine is still classified as a remote engine, see Specific Condition 9.	40 C.F.R. § 63 Subpart ZZZZ

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

Did the facility request a permit shield in this application? N

(Note - permit shields are not allowed to be added, but existing ones can remain, for minor modification applications or any Regulation 18 requirement.)

If yes, are applicable requirements included and specifically identified in the permit? N/A
 If not, explain why.

For any requested inapplicable regulation in the permit shield, explain the reason why it is not applicable in the table below.

Source	Inapplicable Regulation	Reason
N/A		

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. AMBIENT AIR EVALUATIONS:

Include the results for any ambient air evaluations or modeling. Include NSR/PSD permits and permits that require an evaluation in accordance with revisions to the Arkansas State Implementation Plan, National Ambient Air Quality Standards, Infrastructure SIPs and NAAQS SIP per Ark Code Ann. § 8-4-318, dated March 2017 and the ADEQ Air Permit Screening Modeling Instructions.

a) Reserved.

b) Non-Criteria Pollutants:

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

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/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

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

a. STEL value

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

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?
Acrolein	2.29	0.83362	Yes
Formaldehyde	15 ^a	2.08404	Yes

a. Alternate PAIL, see Permit Guidance Manual.

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

13. 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 _x , CO, and VOC AP-42 for PM, PM ₁₀ , SO ₂ , and HAPs	g/hp-hr: 22 NO _x 1.5 CO 0.25 VOC lb/MMBtu 0.01941 PM/PM ₁₀ 0.00147 SO ₂	None		Uncontrolled*

* The source operates with a control device. However, the emission factors are all based on uncontrolled emissions.

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	NO _x CO	7E 10	Once every 60 months (last tested 07/05/2017)	Necessary to verify emissions

15. 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				

16. 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	Pipeline quality natural gas only	Continuously	N
01	Engine maintenance	See Specific Condition 8	As needed	N

17. OPACITY:

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

18. DELETED CONDITIONS:

Former SC	Justification for removal
SC 6	No longer required to ensure compliance with the SO ₂ emissions.

19. GROUP A INSIGNIFICANT ACTIVITIES:

The following is a list of Insignificant Activities including revisions by this permit.

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
Used Oil Drum	A-2			0.1			0.1	0.1
550 gallon Lube Oil Storage Tank	A-3			0.1			0.1	0.1

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
8,400 gallon Production Fluid Collection Tank	A-13			0.01			0.01	0.01
Blowdowns	A-13			0.01			0.002	0.002
Fugitive Emissions	A-13			0.6			0.02	0.02

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

The following is a list of all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1450-AOP-R5

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Black Hills Energy Arkansas, Inc. - Lone
 Elm Compressor Station
 Permit Number: 1450-AOP-R6
 AFIN: 24-00104

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	<u>193.30116</u>
Permit Type	Renewal No Changes	Permit Fee \$	<u>0</u>

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

If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-0.59884
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	0.6	-0.6		
PM ₁₀		0.6	0.6	0	-0.6	0.6
PM _{2.5}		0	0	0		
SO ₂		0.1	0.1	0	0	0.1
VOC		2.2	2.2	0	0	2.2
CO		13	13	0		
NO _x		190.4	190.4	0	0	190.4
1,3-Butadiene	<input type="checkbox"/>	0.05	0	-0.05		
Acrolein	<input type="checkbox"/>	0.16	0	-0.16		
Formaldehyde	<input type="checkbox"/>	0.44	0	-0.44		
Total HAPs**	<input type="checkbox"/>	0	0.77	0.77		
Chargeable HAPs	<input checked="" type="checkbox"/>	0	1.16E-03	0.00116	0.00116	0.00116