

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1310-AOP-R5 AFIN: 24-00090

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Black Hills Energy Arkansas, Inc. - Davis Compressor Station  
8521 Fairhaven Road  
Altus, Arkansas 72821

3. PERMIT WRITER:

Derrick Brown

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
9/27/2018	Renewal	Insignificant Activity Tanks have been updated.

6. REVIEWER'S NOTES:

Black Hills Energy Arkansas, Inc. – Davis Compressor Station operates a natural gas transmission station (NAICS 486210) located at 8521 Fairhaven Road, Altus, Franklin County, Arkansas. This permitting action is a result of the facility's renewal air permit application. The renewal increases PM/PM<sub>10</sub> emissions by 0.4 tpy, VOC by 0.2 tpy and decreases NO<sub>x</sub> and CO by 0.3 and 0.5 tpy respectively.

7. COMPLIANCE STATUS:

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

Inspection Report dated June 21, 2018 stated there were no areas of concern.

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/A

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)
01-04	CO & NO <sub>x</sub>	NESHAP 40 CFR Part 63 Subpart ZZZZ
05	Benzene	NESHAP 40 CFR Part 63 Subpart HHH

10. PERMIT SHIELD – TITLE V PERMITS ONLY:

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

(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? Y

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
Facility	19.801	111(d) Designated facilities
Facility	26.401(g)	Applications for initial Phase II acid rain permits.
Facility	26.1201	Acid rain sources provisions
Facility	40 C.F.R. § 68	Chemical Accidental Release Program
Facility	40 C.F.R. § 79	Registration of fuels and fuel additives
Facility	40 C.F.R. § 80	Registration of fuels and fuel additives
Facility	40 C.F.R. 81.304	Attainment Status of Designations (Non-attainment)

Source	Inapplicable Regulation	Reason
Facility	40 C.F.R. § 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015.
Facility	40 C.F.R. § 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015.
SN-05	40 C.F.R. § 63 Subpart HH	National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities
SN-05	40 C.F.R. § 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities.

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. AMBIENT AIR EVALUATIONS:

The following are results for ambient air evaluations or modeling.

a) NAAQS

A NAAQS evaluation is not required under 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.

b) Non-Criteria Pollutants:

Based on Department procedures for review of non-criteria pollutants, emissions of non-criteria pollutants are below thresholds of concern.

c) H<sub>2</sub>S Modeling: N/A

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

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equip.	Control Equip. Eff.	Comments
01-02	Ajax Manufacturer's Data (July 21, 1989)	<u>g/hp-hr</u> VOC= 1.5 CO= 1.0 NO <sub>x</sub> = 4.0			SI-2S LB 345hp
	AP-42 3.2	<u>lb/MMBtu</u> PM/PM <sub>10</sub> = 0.0384 SO <sub>2</sub> = 0.000588 1,3-Butadiene= 0.0008 Acrolein= 0.0078 Formaldehyde= 0.0552			
03-04	Ajax Manufacturer's Data (July 21, 1989)	<u>g/hp-hr</u> VOC= 1.25 CO= 1.0 NO <sub>x</sub> = 15.0			SI-2S LB 345hp
	AP-42 3.2	<u>lb/MMBtu</u> PM/PM <sub>10</sub> = 0.0384 SO <sub>2</sub> = 0.000588 1,3-Butadiene= 0.0008 Acrolein= 0.0078			

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equip.	Control Equip. Eff.	Comments
		Formaldehyde= 0.0552			
05	AP-42 Section 1.4-1, 2, & 3	lb/MMscf 100 – NO <sub>x</sub> 84 – CO 5.5 – VOC 1.5 – SO <sub>2</sub> 7.6 – PM/PM <sub>10</sub> HAPs - varies			0.175 MMBtu/hr

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 or 02 & 03 or 04	NO <sub>x</sub> CO	7E 10	Once every 5 years	Each type of compressor engine is tested once every 5 years as confirmation of the Permit

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)
01-04	Compliance with the specifications for grains of H <sub>2</sub> S	Contains < 0.5 grains of total sulfur per 100 scf of natural gas	N/A	No. Maintain valid gas tariff; fuel purchase or pipeline transportation contract; vendor certification based on fuel sampling and analysis or other appropriate documentation; or

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
				periodic testing.
05	Facility-wide actual annual average natural gas throughput	less than 28.3 thousand standard cubic meters per day	Annual	No

17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-05	5%	Department Guidance	Natural Gas Usage

18. DELETED CONDITIONS:

Former SC	Justification for removal
	None removed this permit action.

19. GROUP A INSIGNIFICANT ACTIVITIES:

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

Source Name	Group A Cat.	Emissions (tpy)						
		PM/PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
7,050 gal. T-1 Produced Water/Condensate Tank	A-3			<0.001			<0.01	<0.01
2,000 gal. T-2 Reboiler Condensate Tank	A-3			<0.001			<0.01	<0.01
8,460 gal. T-3 Produced Water/Condensate Tank	A-3			<0.001			<0.01	<0.01
500 gal. T-4 Lube Oil Tank	A-3			<0.001			<0.01	<0.01
Blowdown and Venting	A-13			0.0097			0.0097	0.0097
Fugitive Emissions	A-13			1.2785			0.0062	0.0118

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 #
1310-AOP-R4

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Black Hills Energy Arkansas, Inc.  
 Permit Number: 1310-AOP-R5  
 AFIN: 24-00090

\$/ton factor	23.93	Annual Chargeable Emissions (tpy)	221.4
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 or Minor Source General Permit

If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$ 0

Total Permit Fee Chargeable Emissions (tpy) 0.1

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		2.7	3.1	0.4		
PM <sub>10</sub>		2.7	3.1	0.4	0.4	3.1
PM <sub>2.5</sub>		0	0	0		
SO <sub>2</sub>		0.5	0.5	0	0	0.5
VOC		24.1	24.3	0.2	0.2	24.3
CO		18.2	17.9	-0.3		
NO <sub>x</sub>		194	193.5	-0.5	-0.5	193.5
Acetaldehyde	<input type="checkbox"/>	0	0.48	0.48		

