

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1362-AOP-R8 AFIN: 24-00092

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Black Hills Energy Arkansas, Inc. - Stockton Compressor Station
10035 Lone Elm Road
Mulberry, Arkansas 72947

3. PERMIT WRITER:

Thamoda Crossen

4. NAICS DESCRIPTION AND CODE:

NAICS Description: Support Activities for Oil and Gas Operations
NAICS Code: 213112

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
8/14/2023	Renewal	Remove SN-10 from the permit.

6. REVIEWER'S NOTES:

This facility has submitted an application to renewal of existing permit. This permitting action is necessary to remove SN-10 (Glycol Dehydrator) from the permit. The facility's permitted annual emissions are -0.2 tpy PM, -0.1 tpy PM₁₀, -0.1 SO₂, 0.0 tpy VOC, -0.6 CO, -0.3 NO_x and -0.01 tpy total HAPs with this renewal.

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 October 5, 2022. The inspection revealed no violations found during the inspection and found to be in compliance.

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)
01, 03, and 04	CO, NO _x	NESHAP 40 C.F.R. § 63 Subpart ZZZZ

10. UNCONSTRUCTED SOURCES:

Unconstructed Source	Permit Approval Date	Extension Requested Date	Extension Approval Date	If Greater than 18 Months without Approval, List Reason for Continued Inclusion in Permit
N/A				

11. 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 Rule 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 – The facility is not identified in the list of regulated sources

Source	Inapplicable Regulation	Reason
Facility	26.401(g)	Applications for initial Phase II acid rain permits – The facility is not an acid rain category source
Facility	26.1201	Acid rain sources provisions – The facility is not an acid rain source
Facility	40 C.F.R. Part 68	Chemical Accidental Release Program – The facility does not store a regulated substance above a threshold quantity
Facility	40 C.F.R. Part 79	Registration of fuels and fuel additives – The facility is not in this source category
Facility	40 C.F.R. Part 80	Registration of fuels and fuel additives – The facility is not in this source category
Facility	40 C.F.R. 81.304	Attainment Status of Designations – The facility is not located in a nonattainment area s of the effective date of this permit
01, 03, and 04	40 C.F.R. Part 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines – The engines are not compression ignition engines
01, 03, and 04	40 C.F.R. Part 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines – The engines were manufactured before June 2006
Facility	40 C.F.R. Part 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 – The facility is part of the natural gas transmission and storage source category and no equipment except for tanks are potentially subject to this rule. The existing tanks have not been constructed, modified, or reconstructed during the applicable time period

Source	Inapplicable Regulation	Reason
Facility	40 C.F.R. Part 60 Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After September 18, 2015 – Equipment subject to the rule, or that could become subject, have not been constructed, modified, or reconstructed during the applicable time period
Facility	40 C.F.R. Part 63 Subpart HH	National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities – The facility is part of the natural gas transmission and storage source category therefore excluded
Facility	40 C.F.R. Part 63 Subpart HHH	National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage Facilities – The facility is not a major source of HAPs

12. COMPLIANCE ASSURANCE MONITORING (CAM) – TITLE V PERMITS ONLY:

List sources potentially subject to CAM because they use a control device to achieve compliance and have pre-control emissions of at least 100 percent of the major source level. List the pollutant of concern and a brief summary of the CAM plan (temperature monitoring, CEMs, opacity monitoring, etc.) and frequency requirements of § 64.

Source	Pollutant Controlled	Cite Exemption or CAM Plan Monitoring and Frequency
N/A		

13. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

14. 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 DEQ Air Permit Screening Modeling Instructions.

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	4.424	0.486	0.0089	Yes
Acetaldehyde	45.00	4.95	0.1987	Yes
Acrolein	0.23	0.0253	0.1262	No
Benzene	32.00	3.52	0.0168	Yes
Formaldehyde	1.50	0.165	1.2408	No
Methanol	262.08	28.828	0.0693	Yes
n-Hexane	176.00	19.36	0.0275	Yes
Toluene	188.00	20.68	0.0117	Yes

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	0.04833	Yes
Formaldehyde	15*	0.46575	Yes

*E&E Allowable PAIL Limit

** Modeling was performed on August 22, 2023.

c) H₂S 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 H₂S Standards Y

If exempt, explain: The facility does not emit H₂S

15. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Waukesha Product Bulletin Dated Aug. 8, 1989 AP-42 3.2-3	VOC= 2.1 g/hp-hr CO= 28.1 g/hp-hr NO _x = 7.1 g/hp-hr Formaldehyde= 0.05 g/hp-hr <u>lb/MMBtu</u> PM= 1.94E-2 PM ₁₀ = 1.94E-2 SO ₂ = 1.47E-3 1,3-Butadiene= 6.63E-4 Acetaldehyde= 2.79E-3 Acrolein= 2.63E-3 POM= 1.41E-4 Total HAP= 2.65E-2	None		SI-4SRB, 587 HP
03, 04	Waukesha Product Bulletin Dated Aug. 8, 1989 AP-42 3.2-2	VOC= 1.0 g/hp-hr CO= 2.7 g/hp-hr NO _x = 1.5 g/hp-hr <u>lb/MMBtu</u> PM= 9.99E-3 PM ₁₀ = 9.99E-3 SO ₂ = 1.47E-3 1,3-Butadiene= 2.67E-4 Acetaldehyde= 8.36E-3 Acrolein= 5.14E-3	None		SI-4SLB, 1478 HP

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
		Formaldehyde= 5.28E-2 POM= 1.62E-4 Total HAP=7.21E-2			
10	VOC GRI-GLYCalc Combustion AP-42 1.4	Removed from this permit.			
11	VOC GRI-GLYCalc Combustion AP-42 1.4	VOC=0.01 lb/hr= 0.04 tpy <u>lb/MMscf</u> PM= 7.6 PM ₁₀ = 0.00004 SO ₂ = 1.5 VOC= 5.5 CO= 84 NO _x = 100 Formaldehyde= 7.5E-2 POM= 6.96E-4 Total HAP= 1.88	None		1.5 MMBtu/hr

16. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01	CO	10	Every five years	Standard for compressor stations. See Plantwide Condition #8 for details.
	NO _x	7E		
03, 04	CO	10	Every other engine every five years	
	NO _x	7E		

17. 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				

18. 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, 03, and 04	Records required by 63.6655	N/A	N/A	Y
	Maintenance Conducted	N/A	N/A	Y

19. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01, 03, 04, 11	5%	Natural Gas Usage	Only Fire Natural Gas

20. DELETED CONDITIONS:

Former SC	Justification for removal
N/A	

21. 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
Lube Oil Drums (4) – 55 gal each	A-2	-	-	<0.01	-	-	-	<0.01
Used Lube Oil Drums (4) – 55 gal each	A-2	-	-	<0.01	-	-	-	<0.01
T-1 Skid Drain Water – 4,700 gal	A-3	-	-	<0.01	-	-	-	<0.01

Source Name	Group A Category	Emissions (tpy)						
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs	
							Single	Total
T-2 Produced Water/Condensate – 5,875 gal	A-3	-	-	<0.01	-	-	-	<0.01
T-3 Dehydrator Reboiler Condensate – 2,000 gal	A-3	-	-	<0.01	-	-	-	<0.01
Fugitive Emissions	A-13	-	-	1.2785	-	-	0.0062	0.0118
Blowdowns and Venting	A-13	-	-	0.0097	-	-	0.0097	0.0097

22. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1362-AOP-R7

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 03-11-16

Facility Name: Black Hills Energy Arkansas, Inc. -
 Stockton Compressor Station
 Permit Number: 1362-AOP-R8
 AFIN: 24-00092

\$/ton factor	28.14	Annual Chargeable Emissions (tpy)	<u>125.7</u>
Permit Type	Modification	Permit Fee \$	<u>1000</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	<input type="checkbox"/>
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	-0.5
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 condensable 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		1.6	1.4	-0.2		
PM ₁₀		1.6	1.5	-0.1	-0.1	1.5
PM _{2.5}		0	0	0		
SO ₂		0.5	0.4	-0.1	-0.1	0.4
VOC		40.2	40.2	0	0	40.2
CO		237	236.4	-0.6		
NO _x		83.9	83.6	-0.3	-0.3	83.6

