

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1450-AOP-R3 AFIN: 24-00104

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arkansas Western Gas Company - Lone Elm Compressor Station  
4511 Dogwood Lane  
Ozark, Arkansas 72949

3. PERMIT WRITER:

Joseph Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

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

5. SUBMITTALS:

8/11/2010

6. REVIEWER'S NOTES:

This permit modification is being issued to retire the current compressor engine and install an existing engine from the Batson Compressor Station (AFIN: 36-00161). The overall emission changes include increases of 0.7 tpy of PM, 0.1 tpy of PM<sub>10</sub> and 16.5 tpy of NO<sub>x</sub>, and decreases of 0.2 tpy of SO<sub>2</sub>, 17.2 tpy of VOC, and 180.2 tpy of CO.

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 issues.

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)
N/A		

SN-01 is an affect source under 40 CFR Part 63, Subpart ZZZZ, but there are not applicable requirements. SN-01 is currently not subject to 40 CFR Part 60, Subpart JJJJ, but it may become subject upon any modification or reconstruction. Otherwise, there are no applicable source and pollutant specific regulations.

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 ( $\mu\text{g}/\text{m}^3$ )	Averaging Time	Highest Concentration ( $\mu\text{g}/\text{m}^3$ )	% of NAAQS
PM <sub>10</sub>	0.3	150	24-Hour	4.62948	3.1%
SO <sub>2</sub>	0.1	80	Annual	0.00977	0.02%
		1300	3-Hour	0.30230	0.02%
		365	24-Hour	0.13717	0.04%
VOC	0.5	0.12	1-Hour (ppm)	--	--
CO	3.0	10,000	8-Hour	88.29364	0.9%

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
		40,000	1-Hour	137.76512	0.4%
NO <sub>x</sub>	43.5	100	Annual	39.79257	39.8%
Pb	N/A	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	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?
1,3-Butadiene	4.42	0.48	0.01	Yes
Acrolein	0.22	0.2	0.04	Yes
Formaldehyde	0.36	0.04	0.10	No

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?
Formaldehyde	15.0	1.69748	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	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	Within 180 days of permit issuance and once every 5 years thereafter	Compressor engine will be tested every 5 years as confirmation of the permit limits
Plantwide	Total Sulfur	Methods outlined in section 2.3.5 or 2.3.3.1.2 of 40 CFR Part 75, Appendix D	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				

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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)
N/A				

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01	5 %	Department Guidance	Inspector's Observation

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
Lube Oil Storage Tank	A-3			0.03			0.03	0.03
Blowdowns	A-13			0.02			0.02	0.02
Fugitive Emissions	A-13			1.9			0.02	0.02

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1450-AOP-R2

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20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

  
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Karen Cerney, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION



## Fee Calculation for Major Source

Revised 03-01-10

Facility Name: Arkansas Western Gas Company - Lone Elm  
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\$/ton factor	22.07	Annual Chargeable Emissions (tpy)	<u>193.9</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)	-0.2
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"/>	0.5	1.2	0.7	0.7	1.2
PM <sub>10</sub>	<input type="checkbox"/>	0.5	0.6	0.1		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	0.3	0.1	-0.2	-0.2	0.1
VOC	<input checked="" type="checkbox"/>	19.4	2.2	-17.2	-17.2	2.2
CO	<input type="checkbox"/>	193.2	13	-180.2		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	173.9	190.4	16.5	16.5	190.4
Acrolein	<input type="checkbox"/>	0.09	0.16	0.07		
Formaldehyde	<input type="checkbox"/>	0.66	0.44	-0.22		
1,3-Butadiene	<input type="checkbox"/>	0	0.05	0.05		