

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0972-AOP-R2 AFIN: 24-00068

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

Arkansas Western Gas - Woolsey Compressor Station  
2002 Cataberry Run Road  
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:

4/9/2008

6. REVIEWER'S NOTES:

Arkansas Western Gas Company (AWG) owns and operates a natural gas compressor station located near Ozark, Arkansas. This is the second Title V renewal for the facility. SN-01 has been removed from service and the emissions have been removed with this permit renewal. PM, PM<sub>10</sub>, and SO<sub>2</sub> emissions, which were considered negligible in the past, are being added to the permit with this renewal. Total permitted emission increases include 0.9 tpy of PM and 0.3 tpy of SO<sub>2</sub>. Total permitted emission decreases include 6.0 tpy of VOC, 15.8 tpy of CO, and 11.9 tpy of NO<sub>x</sub>.

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 known active/pending enforcement activities regarding this facility.

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)
NSPS and NESHAP not applicable at this time		

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

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	50	Annual	0.8	1.6 %
		150	24-Hour	7.3	5.9 %
SO <sub>2</sub>	0.3	80	Annual	0.7	0.9 %
		1300	3-Hour	9.2	0.8 %
		365	24-Hour	5.8	1.6 %
CO	13.7	10,000	8-Hour	340.7	3.5 %
		40,000	1-Hour	396.9	1.0 %
NO <sub>x</sub>	27.6	100	Annual	40.9	40.9 %

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 (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?
Acrolein	0.23	0.03	0.14	No
Formaldehyde	1.5	0.165	1.14	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 (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Acrolein	2.3	1.25	Yes
Formaldehyde	15.0	14.48	Yes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
03 & 04	Equipment Manufacturer + stack testing for NO <sub>x</sub> and CO  AP-42 (Section 3.2)	g/bhp-hr: 2.0 NO <sub>x</sub> 2.65 CO 1.0 NMHC lb/MMBtu: 7.71 E-05 PM 5.88 E-04 SO <sub>2</sub>	None	N/A	-
03 & 04	HAP emission factors derived from GRI factors	g/bhp-hr: 0.017 Acrolein	None	N/A	-

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	converted from AP-42 factor units.	0.174 Formaldehyde			
02	Equipment Manufacturer + stack testing for NO <sub>x</sub> and CO  AP-42 (Section 3.2)	g/bhp-hr: 15 NO <sub>x</sub> 1 CO 1.25 NMHC lb/MMBtu: 7.71 E-05 PM 5.88 E-04 SO <sub>2</sub>			
02	HAP emission factors derived from GRI factors converted from AP-42 factor units.	g/bhp-hr: 0.00868 Acrolein 0.0677 Formaldehyde	None	N/A	-

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
02 - 04 (one of each model engine)	NO <sub>x</sub> CO	7E 10	Every five years	All compressor engines are being tested every 5 years as confirmation of the permit limits
Plantwide	Total Sulfur (SO <sub>2</sub> )	Methods outlined in section 2.3.5 or 2.3.3.1.2 of 40 CFR Part 75, Appendix D	Within 180 days of permit issuance and every five years	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)
No monitoring or CEMS				

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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)
Facility	Total Sulfur (SO <sub>2</sub> )	0.2 grains/100 scf of natural gas	Every 5 years	Y

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
Plantwide	5%	Department Guidance	Pipeline Quality Natural Gas Fuel Only

17. DELETED CONDITIONS:

Former SC	Justification for removal
PWC # 8	This condition referenced an old definition of pipeline quality natural gas.

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
2.5 MMBtu/hr Reboiler	A-1	0.08	0.01	0.06	0.91	1.08		
0.8 MMBtu/hr Reboiler	A-1	0.03	0.01	0.02	0.30	0.35		
Lube Oil Storage Tanks (250 gallon)	A-3			0.002				
Lube Oil Storage Tanks (550 gallon)	A-3			0.003				
Non-Point source Fugitive	A-13			1.5			0.0073	0.0139

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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
Emissions								
ESD Blowdowns	A-13			0.034				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0972-AOP-R1

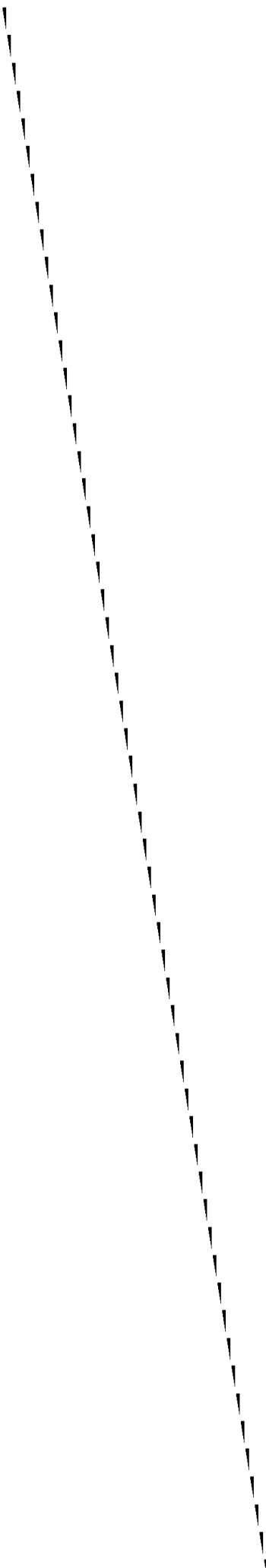
20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



\_\_\_\_\_  
Thomas Rheaume, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION





## Fee Calculation for Major Source

Facility Name: AR Western Gas Company - Woolsey  
 Company Station:  
 Permit Number: 0127-100-18  
 AFIN: 24-00068

\$/ton factor	20.96	Annual Chargeable Emission (tpy)	149.2
Permit Type	Renewal/No Changes	Permit Fee \$	0

Minor Modification Fee \$	500
Minimum Modification Fee \$	1000
Renewal with Minor Modification \$	500
If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
<b>Total Permit Fee Chargeable Emissions (tpy)</b>	

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	0.9	0.9		
PM <sub>10</sub>	<input type="checkbox"/>	0	0.4	0.4		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	0	0.3	0.3		
VOC	<input checked="" type="checkbox"/>	33.6	27.6	-6		
CO	<input type="checkbox"/>	75.3	59.5	-15.8		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	132	120.4	-11.9		
Acrolein	<input type="checkbox"/>	0.52	0.41	-0.11		
Formaldehyde	<input type="checkbox"/>	4.97	3.93	-1.04		

