

## STATEMENT OF BASIS

for the issuance of Draft Air Permit # :1450-AOP-R2

**1. PERMITTING AUTHORITY:**

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

**2. APPLICANT:**

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

**3. PERMIT WRITER: Charles Hurt, P.E.**

**4. PROCESS DESCRIPTION AND NAICS CODE:**

NAICS Description: Natural Gas Distribution  
NAICS Code: 22121

**5. SUBMITTALS: 3/26/2008**

**6. REVIEWER'S NOTES:**

Arkansas Western Gas Company (AWG) owns and operates the Lone Elm natural gas compressor station (AFIN: 24-00104) located at 4511 Dogwood Lane, Ozark, Arkansas 72949. This permit is a renewal for the Title V Operating Air Permit # 1450-AOP-R1. There are no physical changes or changes in method of operation. However, PM/PM<sub>10</sub>, SO<sub>2</sub>, and HAP emission limits were added. Permitted PM/PM<sub>10</sub>, SO<sub>2</sub>, and HAP increased by 0.5 tpy, 0.3 tpy and 0.09 tpy, respectively.

**7. COMPLIANCE STATUS:**

The facility was last inspected on February 13, 2008 and determined to be in compliance with the existing permit.

**8. APPLICABLE REGULATIONS:**

### PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera)?	N	
Has this facility undergone PSD review in the past?	N	Permit#
Is this facility categorized as a major source for PSD?	N	
≥100 tpy and on the list of 28 (100 tpy)?	N	
≥250 tpy all other	N	

**PSD Netting**

Was netting performed to avoid PSD review in this permit? N

**Source and Pollutant Specific Regulatory Applicability**

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.

**9. EMISSION CHANGES:**

The following table summarizes plant wide emission changes associated with this permitting action.

<b>Plant Wide Permitted Emissions (ton/yr)</b>			
<b>Pollutant</b>	<b>Air Permit 1450-AOP-R1</b>	<b>Air Permit 1450-AOP-R2</b>	<b>Change</b>
PM <sub>10</sub>	--	0.5	+0.5
PM	--	0.5	+0.5
SO <sub>2</sub>	--	0.3	+0.3
VOC	19.4	19.4	0
CO	193.2	193.2	0
NO <sub>x</sub>	173.9	173.9	0
Acrolein	--	0.09	+0.09
Formaldehyde	0.66	0.66	0

**10. 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 for PM/PM<sub>10</sub>, VOC, and SO<sub>2</sub>.

<b>Pollutant</b>	<b>Emission Rate (lb/hr)</b>	<b>NAAQS Standard (µg/m<sup>3</sup>)</b>	<b>Averaging Time</b>	<b>Highest Concentration (µg/m<sup>3</sup>)</b>	<b>% of NAAQS</b>
NO <sub>x</sub>	39.7	100	Annual	72.91*	73%
CO	44.1	10,000	8-hour	806.5	<1%
		40,000	1-hour	1068.8	<1%

\* Includes background concentration of 12.6 µg/m<sup>3</sup> (Tahlequah, OK 2006)

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### **Other Modeling**

The facility is not a significant source for hydrogen sulfide or styrene. Therefore, neither of these pollutants requires modeling.

### **Non-Criteria Pollutants**

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLVs) that pass the *PAER or PAIL*. Therefore, modeling of specific non-criteria pollutants was not performed. *(If the permit does not contain a TLV table, Please remove this paragraph.)*

### **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 deemed 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).

<b>Pollutant</b>	<b>TLV (<math>\text{mg}/\text{m}^3</math>)</b>	<b>PAER (lb/hr)= 0.11*TLV</b>	<b>Proposed lb/hr</b>	<b>Pass?</b>
Acrolein	0.229	0.0252	0.0191	Y
Formaldehyde	0.015	0.0016	0.149	N

### **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 was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

<b>Pollutant</b>	<b>(PAIL, <math>\mu\text{g}/\text{m}^3</math>) = 1/100 of Threshold Limit Value</b>	<b>Modeled Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Pass?</b>
Formaldehyde	15	1.48	Y

**11. CALCULATIONS:**

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
01	Mfg Spec. for NO <sub>x</sub> and VOC  Testing for CO  AP-42 and GRI for PM <sub>10</sub> , SO <sub>2</sub> , and HAPs	NO <sub>x</sub> 18 g/hp-hr  CO 20 g/hp-hr  VOC 2 g/hr-hr  PM <sub>10</sub> 9.5 lb/MMCF  SO <sub>2</sub> 0.59 lb/MMCF	None		Uncontrolled

**12. TESTING REQUIREMENTS:**

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
01	NOX CO	7E 10	Once every five years	Compressor engine will be tested every 5 years as confirmation of the permit limits

**13. MONITORING OR CEMS**

This permit does not require any CEMS or other monitoring devices.

**14. RECORD KEEPING REQUIREMENTS**

The facility demonstrates compliance with the conditions of the permit through combusting only natural gas and operating at or below maximum capacity. Therefore periodic record keeping is not required.

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**15. OPACITY**

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
01	5	Dept. Guidance	Inspector's Observation

**16. DELETED CONDITIONS:**

There were not any conditions which were deleted or added. Plantwide Condition #7 in Permit No. 1450-AOP-R1 is now Specific Condition #5 1450-AOP-R2.

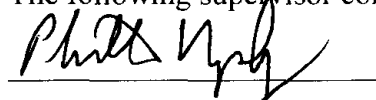
**17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

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

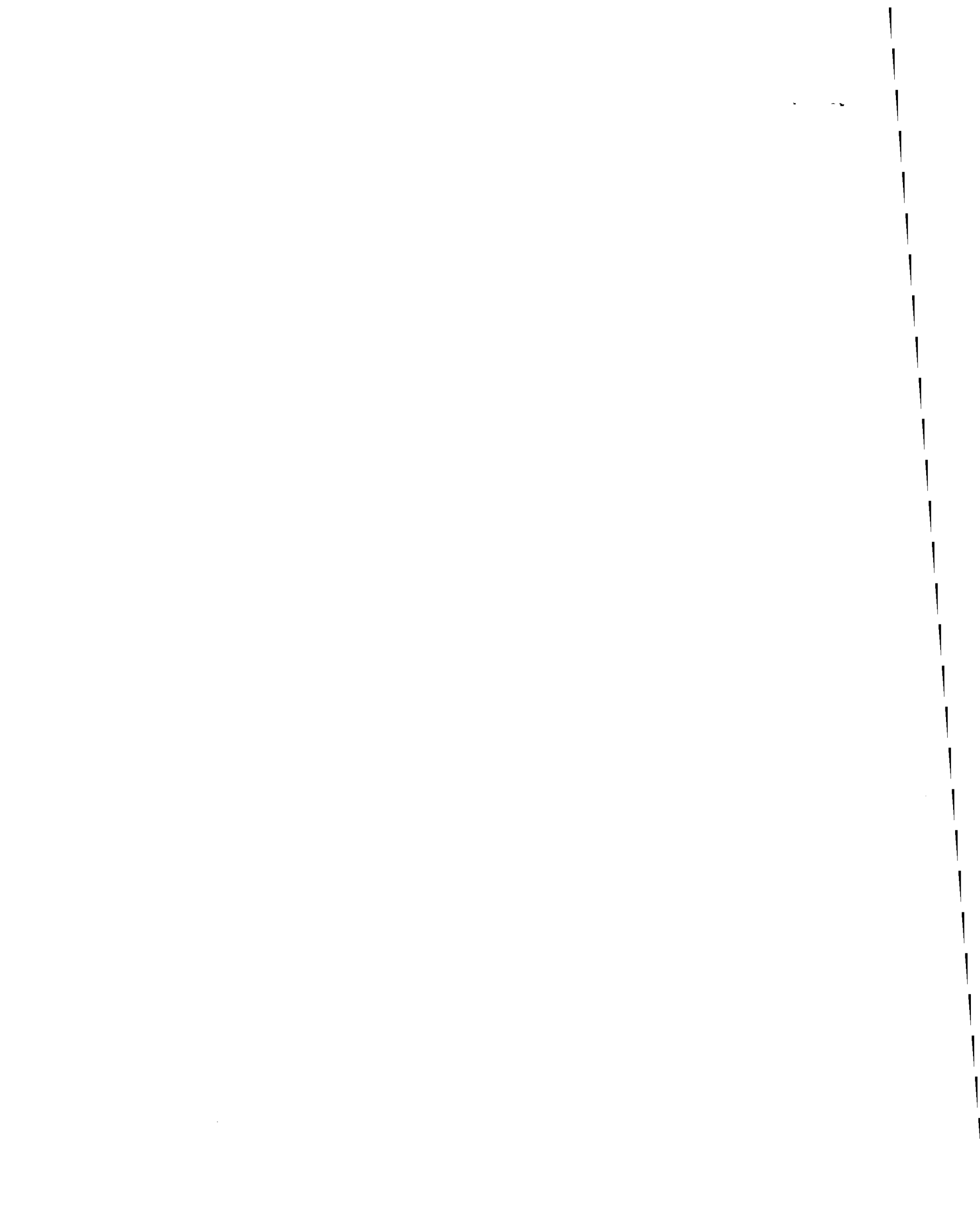
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**18. CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:



Phillip Murphy, P.E.  
Engineering Supervisor, Air Division



## Fee Calculation for Major Source

Facility Name: Arkansas Western Gas  
 Company - Lone Elm  
 AFIN: 24-00104  
 Permit Number: 1450-AOP-R2

\$/ton factor 20.96 Annual Chargeable Emission (tpy) 194.1  
 Permit Type ~~Minor Mod~~ *TV Renew w/o mod* Permit Fee \$ 500 *\$0*  
*CH* *CH*

Minor Modification Fee \$ 500  
 Minimum Modification Fee \$ 1000  
 Renewal with Minor Modification \$ 500  
 Amount of Last Annual Air Permit Invoice \$ \$4,052  
 Total Permit Fee Chargeable Emissions (tpy) 0.8

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	0.5	0.5	0.5	0.5
PM <sub>10</sub>	<input type="checkbox"/>	0	0.5	0.5		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	0	0.3	0.3	0.3	0.3
VOC	<input checked="" type="checkbox"/>	19.4	19.4	0	0	19.4
CO	<input type="checkbox"/>	193.2	193.2	0		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	173.9	173.9	0	0	173.9
Acrolein	<input type="checkbox"/>	0	0.09	0.09		
Formaldehyde	<input type="checkbox"/>	0.66	0.66	0		

