

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 0972-AOP-R3 AFIN: 24-00068

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

SourceGas Arkansas Inc. (Woolsey Compressor Station)  
2002 Cataberry Run Road  
Ozark, Arkansas 72949

3. PERMIT WRITER:

Adam McDaniel

4. NAICS DESCRIPTION AND CODE:

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

5. SUBMITTALS:

2/7/2013

6. REVIEWER'S NOTES:

SourceGas Arkansas Inc. (Woolsey Compressor Station) owns and operates a natural gas compressor station located near Ozark, Arkansas. This application is for a renewal and modification. Also, the two Re-Boilers on the insignificant activity list will be changed to sources (SN-05 and SN-06) with conditions. The total annual permitted emission rate limit changes associated with this permit includes: +0.3 tpy PM, +0.2 tpy PM<sub>10</sub>, +0.2 tpy SO<sub>2</sub>, +1.1 tpy CO, and +1.3 tpy NO<sub>x</sub>. The total annual permitted emission rates for HAP's includes: 0.53 tpy Acrolein, 0.05 tpy Butadiene, and 1.33 tpy Formaldehyde.

7. COMPLIANCE STATUS:

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

The facility was last inspected July 17, 2012 and found to be in compliance.

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  $\geq 100$  tpy and on the list of 28 or single pollutant  $\geq 250$  tpy and not on list, or*
  - *CO<sub>2</sub>e potential to emit  $\geq 100,000$  tpy and  $\geq 100$  tpy/ $\geq 250$  tpy of combined GHGs?*

If yes, explain why this permit modification is not PSD.

9. GHG MAJOR SOURCE (TITLE V):

Indicate one:

- Facility is classified as a major source for GHG and the permit includes this designation
- Facility does not have the physical potential to be a major GHG source
- Facility has restrictions on GHG or throughput rates that limit facility to a minor GHG source. Describe these restrictions: \_\_\_\_\_

10. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
02, 03, 04	HAPs	NESHAP 40 CFR Part 63 Subpart ZZZZ

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. MODELING:

a) NAAQS

Two Re-Boilers on the insignificant activity list were changed to sources (SN-05 and SN-06) with conditions. The total annual permitted emission rate limit changes associated with this permit includes: +0.3 tpy PM, +0.2 tpy PM<sub>10</sub>, +0.2 tpy SO<sub>2</sub>, +1.1 tpy CO, and +1.3 tpy NO<sub>x</sub>.

The facility did not agree to dispersion modeling and instead offered the following NAAQS evaluation:

- “Likely due to its rural nature and relatively low population density, the western Arkansas River Valley and Arkoma Basin have never been identified as an area of concern for NAAQS attainment in ADEQ’s State Implementation Plans (SIPs) for any pollutant. The nearest, representative ambient monitors maintained by the ADEQ (and the Oklahoma DEQ) have not measured exceedances of the NAAQS. Therefore, the ADEQ (and by extension, the EPA) has presumed that the existing air quality in this area is attaining the NAAQS. SourceGas Arkansas Woolsey facility is a Title V major source, and as such, previous Title V renewal applications required an air quality analysis to demonstrate no interference with the NAAQS. The facility has been issued renewals since its original Title V permit. The most recent included a satisfactory air quality analysis. In addition, any Arkansas SIP developed and approved by EPA since the late 1970s would have, by default, considered emissions from the facility. Finally, new federal air quality regulations designed to protect the NAAQS, such as RICE MACT and NSPS apply to the facility that have coincidental reductions in criteria pollutant emissions. The federal NSR/PSD regulations only require an air quality analysis for new major sources or major modifications. Assuming the area has air quality not currently threatening the NAAQS, EPA presumes that emission increases below NSR/PSD triggering thresholds are small enough to not have a measurable impact on NAAQS attainment. Since the modification only involves the

movement of previously designated insignificant activities to source status, it is reasonable to conclude the changes will not interfere with attainment or maintenance of the NAAQS.”

The Department reviewed the Act 1302 response submitted on June 25, 2013 and has deemed this demonstration inadequate for the following reasons:

1. The ambient monitors in Arkansas and Oklahoma are not representative of fence-line or nearby concentrations at the Woolsey Compressor Station. Therefore, these monitors cannot be used to demonstrate compliance with the NAAQS for this facility.
2. The previous Title V renewal application for this facility demonstrated compliance with all applicable NAAQS, but this application includes sources of emissions that may not have been included in any previous demonstration.
3. The SIP does not include emissions from this facility.
4. It is unclear how the RICE MACT reduces criteria pollutants at this particular facility and it is unclear what NSPS is applicable to this facility or how either of those would demonstrate compliance with the NAAQS.
5. Emission increases below NSR/PSD thresholds are not automatically assumed to not have an impact on NAAQS attainment.

However, since the only change in this permit is to include previous insignificant activities now permitted with specific conditions, no further information is required to process your application.

b) 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	0.1162	No
Formaldehyde	1.5	0.165	0.297	No
Butadiene	4.42	0.4862	0.03	Yes

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.

Acrolein was modeled in Permit #0972-AOP-R3 because of an increase in emissions from an updated emission factor. The 1<sup>st</sup> highest concentration was taken for Acrolein

because it was modeled using only 1 year of meteorological data (2010 for Fort Smith).  
 Formaldehyde was not remodeled because there wasn't a change in hourly emissions.

Pollutant	PAIL ( $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Acrolein	2.3	0.98	Yes
Formaldehyde	15.0	14.48	Yes

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
02	Equipment Manufacturer Specs  AP-42 3.2  Equipment Manufacturer Specs	<u>g/bhp-hr:</u> NO <sub>x</sub> =15 CO=1 VOC=1.2 <u>lb/MMBtu:</u> PM=9.91 E-03 PM <sub>10</sub> =9.91 E-03 SO <sub>2</sub> =5.88 E-04 Acrolein=2.63 E-3 Butadiene=6.63 E-4 <u>g/bhp-hr:</u> Formaldehyde=0.05	None	N/A	4SRB 600HP  4.52 MMBtu/hr  39.63 MMscf/yr
03	Equipment Manufacturer Specs  AP-42 3.2  Equipment Manufacturer Specs	<u>g/bhp-hr:</u> NO <sub>x</sub> =2.0 CO=2.65 VOC=1.0 <u>lb/MMBtu:</u> PM=9.91 E-03 PM <sub>10</sub> =7.71 E-05 SO <sub>2</sub> =5.88 E-04 Acrolein=5.14 E-3 Butadiene=2.67 E-4 <u>g/bhp-hr:</u> Formaldehyde=0.05	None	N/A	4SLB 615 HP  4.64 MMBtu/hr  40.62 MMscf/yr

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
04	Equipment Manufacturer Specs  AP-42 3.2  Equipment Manufacturer Specs	<u>g/bhp-hr:</u> NO <sub>x</sub> =1.5 CO=2.65 VOC=1.0 <u>lb/MMBtu:</u> PM=9.91 E-03 PM <sub>10</sub> =7.71 E-05 SO <sub>2</sub> =5.88 E-04 Acrolein=5.14 E-3 Butadiene=2.67 E-4 <u>g/bhp-hr:</u> Formaldehyde=0.05	None	N/A	4SLB 1478 HP  11.14 MMBtu/hr  97.62 MMscf/yr
05	AP-42 1.4  Equipment Manufacturer Specs	<u>Lb/MMscf</u> NO <sub>x</sub> =100 CO=84 VOC=5.5 SO <sub>2</sub> =0.6 PM=7.6 PM <sub>10</sub> =4.0 E-5 <u>g/bhp-hr:</u> Formaldehyde=0.05	None	N/A	2.0 MMBtu/hr 17.52 MMscf/yr
06	AP-42 1.4  Equipment Manufacturer Specs	<u>Lb/MMscf</u> NO <sub>x</sub> =100 CO=84 VOC=5.5 SO <sub>2</sub> =0.6 PM=7.6 PM <sub>10</sub> =4.0 E-5 <u>g/bhp-hr:</u> Formaldehyde=0.05	None	N/A	0.8 MMBtu/hr  7.01 MMscf/yr

14. 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>	7E	Every 5 years	Compressor stations are required to test one half of each type of engine every five years

SN	Pollutants	Test Method	Test Interval	Justification
03 - 04	NO <sub>x</sub>	7E	Once within 180 days of installing controls	Compliance Verification
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
03 & 04	O <sub>2</sub> Moisture Content Formaldehyde CO	Methods & Requirements Listed in Permit	Annual	NESHAP 40 CFR Part 63 Subpart ZZZZ

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)
03 & 04	Catalyst Temperature	Thermocouple	Continuous	N
03 & 04	Pressure Differential Across Catalyst Bed	Pressure transducer, differential pressure gauge, manometer as appropriate	Monthly	N

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)
02	Maintenance	N/A	Monthly	N
03 & 04	Pressure	Change of 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured	Monthly	Y
03 & 04	Catalyst Temperature	450 °F to 1350 °F	Continuous	Y
03 & 04	Annual Compliance Demonstration	Listed in Permit	Annual	Y
03 & 04	Maintenance/Notifications	N/A	Monthly	Y
Facility	Total Sulfur (SO <sub>2</sub> )	0.2 grains/100 scf of natural gas	Every 5 years	Y

17. OPACITY:

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

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18. DELETED CONDITIONS:

Former SC	Justification for removal
	None

19. 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 Tanks (250 gallon)	A-3			0.002				
Lube Oil Storage Tanks (550 gallon)	A-3			0.003				
Non-Point source Fugitive Emissions	A-13			1.5			0.0073	0.0139
ESD Blowdowns	A-13			0.034				

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0972-AOP-R2

21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

\_\_\_\_\_  
Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION



## Fee Calculation for Major Source

Revised 08-20-12

Facility Name: Sourcegas Arkansas Inc. (Woosley  
Compressor Station)  
Permit Number: 0972-AOP-R3  
AFIN: 24-00068

\$/ton factor	22.97	Annual Chargeable Emissions (tpy)	151
Permit Type	Modification	Permit Fee \$	1000

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)	1.8
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	<input checked="" type="checkbox"/>	0.9	1.2	0.3	0.3	1.2
PM <sub>10</sub>	<input type="checkbox"/>	0.4	0.6	0.2		
SO <sub>2</sub>	<input checked="" type="checkbox"/>	0.3	0.5	0.2	0.2	0.5
VOC	<input checked="" type="checkbox"/>	27.6	27.6	0	0	27.6
CO	<input type="checkbox"/>	59.5	60.6	1.1		
NO <sub>x</sub>	<input checked="" type="checkbox"/>	120.4	121.7	1.3	1.3	121.7
Acrolein	<input type="checkbox"/>	0.4072	0.52	0.1128		
Formaldehyde	<input type="checkbox"/>	3.931	1.33	-2.601		
Butadiene	<input type="checkbox"/>	0	0.05	0.05		