

**STATEMENT OF BASIS**

For the issuance of Draft Air Permit # 0972-AOP-R4 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:**

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
12/5/2014	Minor Modification	Replace SN-04 which is a Waukesha 7042GL to a 4 Stroke Rich Burn, Waukesha L7042G

6. **REVIEWER'S NOTES:**

SourceGas Arkansas Inc. (Woolsey Compressor Station) owns and operates a natural gas compressor station located near Ozark, Arkansas. The facility submitted an application to replace SN-04 which is currently a Waukesha 7042GL to a 4 stroke rich burn, Waukesha L7042G with a catalyst. The total annual permitted emission rate limit changes associated with this modification includes: -0.2 tpy PM, +0.2 tpy PM<sub>10</sub>, -12.1 tpy VOC, -24.9 tpy CO, -7.6 tpy NO<sub>x</sub>, and a small change in HAPs.

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 ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

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

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. NAAQS EVALUATIONS AND NON-CRITERIA POLLUTANTS:

a) NAAQS:

No Analysis/Not PSD

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).

In permit modification #0927-AOP-R4, the facilities HAP emissions decreased. So, the PAER table was updated.

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.23	0.03	3.48E-1	No
Formaldehyde	1.5	0.165	1.04	No
Butadiene	4.42	0.4862	4.96E-2	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.

In permit modification #0927-AOP-R4, the facilities HAP emissions decreased. Since there was a decrease in HAP emissions, the PAIL table was not updated.

Pollutant	PAIL (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Acrolein	2.3	0.98	Yes

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	14.48	Yes

c) H<sub>2</sub>S Modeling:

Not Applicable

12. 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> = 1.61 CO= 1.50 VOC= 0.25 <u>lb/MMBtu:</u> PM= 1.941E-2 PM <sub>10</sub> = 1.941E-2 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 896 HP  7,540 Btu/hp-hr  6.76 MMBtu/hr  59.18 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

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 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> CO	7E 10	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

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

## 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)
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

## 16. OPACITY:

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

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17. DELETED CONDITIONS:

Former SC	Justification for removal
	None

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 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				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
0972-AOP-R3

## APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 08-25-14

Facility Name: Source Gas Arkansas Inc. - Woolsey  
 Compressor Station  
 Permit Number: 0927-AOP-R4  
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\$/ton factor	23.89	Annual Chargeable Emissions (tpy)	131.1
Permit Type	Minor Mod	Permit Fee \$	500

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)	-19.9
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		1.2	1	-0.2	-0.2	1
PM <sub>10</sub>		0.6	0.8	0.2		
SO <sub>2</sub>		0.5	0.5	0	0	0.5
VOC		27.6	15.5	-12.1	-12.1	15.5
CO		60.6	35.7	-24.9		
NO <sub>x</sub>		121.7	114.1	-7.6	-7.6	114.1
Acrolein	<input type="checkbox"/>	0.52	3.48E-01	-0.172		
Formaldehyde	<input type="checkbox"/>	1.33	1.04E+00	-0.29		



Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Butadiene	<input type="checkbox"/>	0.05	4.96E-02	-0.0004		