

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1310-AOP-R3 AFIN: 24-00090

1. PERMITTING AUTHORITY:

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

2. APPLICANT:

SourceGas Arkansas Inc. (Davis Compressor Station)  
8521 Fairhaven Road  
Altus, Arkansas 72821

3. PERMIT WRITER:

Adam McDaniel

4. NAICS DESCRIPTION AND CODE:

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

5. SUBMITTALS:

10/7/2013

6. REVIEWER'S NOTES:

SourceGas Arkansas, Inc. (SourceGas) owns and operates a natural gas transmission station (NAICS 486210), known as Davis Compressor Station, located at 8521 Fairhaven Road Altus, Franklin County, Arkansas 72821. The facility submitted an application for a renewal and modification of their air permit. The modification consists of permitting an existing glycol dehydrator (SN-05) previously listed as insignificant. Also, the compressor engines were updated with NESHAP 40 CFR Part 63 Subpart ZZZZ conditions along with updated emissions to reflect that they are actually 2-Stroke Lean Burn Engines. The total annual permitted emission rate limit changes associated with this application includes: +1.9 tpy PM/PM<sub>10</sub>, +0.1 tpy SO<sub>2</sub>, +0.1 tpy VOC, -0.8 tpy CO, +0.2 tpy NO<sub>x</sub>, +0.06 tpy 1,3-Butadiene, +0.32 tpy Acrolein, and +2.15 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 on May 29, 2013 which revealed no violations.

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)
01-04	CO & NO <sub>x</sub>	NESHAP 40 CFR Part 63 Subpart ZZZZ
05	Benzene	NESHAP 40 CFR Part 63 Subpart HHH

11. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

12. NAAQS EVALUATIONS AND NON-CRITERIA POLLUTANTS:

a) NAAQS:

Pursuant to Act 1302 of the Regular Session of the 89th General Assembly of the State of Arkansas, no dispersion modeling was performed by ADEQ because it was not voluntarily proposed and agreed to by the facility. The facility has submitted other information to support NAAQS compliance that was evaluated by the Department and found acceptable. A summary of that information follows.

The Act 1302 demonstration does not apply. Per the ADEQ Guidance dated May 15, 2013, Section V, Title V Permit Renewals, *“Title V permit renewal applications that do not include construction of new sources or modifications to existing sources will not include a review of emissions against the NAAQS effective at the time of renewal. Therefore, neither an owner/operator declaration related to use/consideration of air dispersion modeling for criteria pollutants nor other evidence is necessary.”*

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).

The total hourly emissions are non-rounded emissions taken from the application calculations in the Permit Renewal/Modification #1310-AOP-R3.

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,3-Butadiene	4.42	0.4862	0.0114	Yes

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acrolein	0.229	0.0252	0.108	No
Formaldehyde	1.5	0.165	0.7666	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.

The modeled concentration is the 2<sup>nd</sup> highest concentration in a 24-hour period because five years of meteorological data for the Fort Smith area was used.

Pollutant	PAIL (µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Acrolein	2.29	0.693	Yes
Formaldehyde	15.0	4.923	Yes

13. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01-02	Ajax Manufacturer's Data (July 21, 1989)  AP-42 3.2	<u>g/hp-hr</u> VOC= 1.5 CO= 1.0 NO <sub>x</sub> = 4.0 <u>lb/MMBtu</u> PM/PM <sub>10</sub> = 0.0384 SO <sub>2</sub> = 0.000588 1,3-Butadiene= 0.0008 Acrolein= 0.0078 Formaldehyde= 0.0552	None		SI-2S LB 345hp
03-04	Ajax Manufacturer's Data (July 21, 1989)  AP-42 3.2	<u>g/hp-hr</u> VOC= 1.25 CO= 1.0 NO <sub>x</sub> = 15.0 <u>lb/MMBtu</u> PM/PM <sub>10</sub> = 0.0384 SO <sub>2</sub> = 0.000588 1,3-Butadiene= 0.0008 Acrolein= 0.0078 Formaldehyde= 0.0552	None		SI-2S LB 576hp

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
05	GRI-GLYCalc 4.0 AP-42 1.4	VOC= 0.07 lb/hr=0.30 tpy Lb/MMscf PM=7.6 PM <sub>10</sub> = 0.00004 SO <sub>2</sub> = 0.6 VOC= 5.5 CO= 84 NO <sub>x</sub> = 100 Formaldehyde= 7.5E-2	None		0.41 MMBtu

14. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 or 02 & 03 or 04	NO <sub>x</sub> CO	7E 10	Once every 5 years	Each type of compressor engine is tested once every 5 years as confirmation of the Permit

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)
None				

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)
01-04	Compliance with the specifications for grains of H <sub>2</sub> S	Contains < 0.5 grains of total sulfur per 100 scf of natural gas	N/A	No. Maintain valid gas tariff; fuel purchase or pipeline transportation contract; vendor certification based on fuel sampling and analysis or other appropriate documentation; or periodic testing.
05	Facility-wide actual annual average natural gas throughput	less than 28.3 thousand standard cubic meters per day	Annual	No

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17. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
01-05	5%	Department Guidance	Natural Gas Usage

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
500 Gallon Lube Oil Tank	A-3			0.042			<0.01	<0.01
2,100 Gallon Production Water Tank #1	A-3			<0.001			<0.01	<0.01
2,100 Gallon Production Water Tank #2	A-3			<0.001			<0.01	<0.01
TOTAL	A-3			<0.044			<0.03	<0.03
Blowdown and Venting	A-13			0.012			0.001	0.001
Fugitive Emissions	A-13			1.666			0.008	0.015
TOTAL	A-13			1.678			0.009	0.016

20. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

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

Permit #
1310-AOP-R2

21. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



Phil Murphy, P.E.

APPENDIX A -- EMISSION CHANGES AND FEE CALCULATION

## Fee Calculation for Major Source

Revised 08-26-13

Facility Name: SourceGas Arkansas Inc. (Davis  
Compressor Station)  
Permit Number: 1310-AOP-R3  
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\$/ton factor	23.42	Annual Chargeable Emissions (tpy)	221.3
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

If Hold Active Permit, Amt of Last Annual Air Permit Invoice \$	0
Total Permit Fee Chargeable Emissions (tpy)	2.3
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		0.8	2.7	1.9		
PM <sub>10</sub>		0.8	2.7	1.9	1.9	2.7
SO <sub>2</sub>		0.4	0.5	0.1	0.1	0.5
VOC		24	24.1	0.1	0.1	24.1
CO		19	18.2	-0.8		
NO <sub>x</sub>		193.8	194	0.2	0.2	194
1,3-Butadiene	<input type="checkbox"/>	0	0.06	0.06		
Acrolein	<input type="checkbox"/>	0.16	0.48	0.32		
Formaldehyde	<input type="checkbox"/>	1.22	3.37	2.15		
	<input type="checkbox"/>	0	0	0		
	<input type="checkbox"/>	0	0	0		