

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT No. 48821**

**I. INTRODUCTION**

This Class I Title V operating permit renewal is for the operation of El Paso Natural Gas Company's Hackberry Compressor Station which is located 20 miles east of Kingman in Mohave County, Arizona. Permit #48821 renews and supersedes Permit #27898.

A. Company Information

Facility Name: El Paso Natural Gas Company, Hackberry Compressor Station

Mailing Address: P.O. Box 1087  
Colorado Springs, CO 80901-1087

Facility Location: 20 miles East of Kingman, ½ mile North off I-40 exit 71,  
Mohave County, Arizona 86471

B. Attainment Classification (Source: 40 CFR §81.303)

El Paso Natural Gas Company, Hackberry Compressor Station is located in an area which is in attainment or unclassified for all criteria pollutants.

**II. PROCESS DESCRIPTION**

El Paso Natural Gas Company (EPNG) provides natural gas transportation services for natural gas suppliers and end users throughout the southwestern United States. EPNG owns and operates a large pipeline network for which the Hackberry Station provides natural gas compression. Compression is needed to maintain enough pressure in the pipeline to keep the natural gas flowing through the pipeline network, and is accomplished by two natural gas fired General Electric regenerative cycle turbine engines that drive the compressor units.

From a common pipeline system, natural gas flows into each of the two centrifugal compressors connected in either parallel or in series. The compressors are driven by two natural gas fueled turbine engines. The turbine engines operate depending on the amount of natural gas being transported to various customers along the pipeline system.

The gas turbine stacks are the primary sources of air pollutant emissions. The primary pollutant present in the stack emissions is nitrogen oxides, which results from the combustion of natural gas. Other pollutants present in the emissions are sulfur dioxide, carbon monoxide, and volatile organic compounds.

### III. EMISSIONS

The facility is classified as a Major Source pursuant to Arizona Administration Code (A.A.C.) R18-2-101.64. The potential emission rate of NO<sub>x</sub> is greater than the major source threshold as shown in the table below:

**Facility-Wide Emissions of Other Pollutants**

Pollutant	Tons per Year
PM	0.74
PM <sub>2.5</sub>	0.74
VOC	0.87
SO <sub>2</sub>	42.97
NO <sub>x</sub>	124.19
CO	33.84
Formaldehyde	0.29

### IV. COMPLIANCE HISTORY

There have been thirty-two air quality inspections associated with this facility since March 30, 1995. No air quality cases or violations have been developed for this facility as a result of inspections.

### V. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in the permit application. The following table summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit. Previous permit conditions are discussed under Section VI of this technical review document.

**Applicable Regulations**

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Two General Electric M3962-R Regenerative Natural Gas-Fired Turbine Engines	1966	None	A.A.C. R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.I R18-2-719.J	Stationary Rotating Machinery subject to State rules.  National Emission Standards for Hazardous Air Pollutants Subpart YYYYY is not applicable because the turbines are not located at a major source of HAPs.

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Cummins Emergency Generator	1989	None	<u>A.A.C.</u> R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.I R18-2-719.J	Stationary Rotating Machinery subject to State rules. Standards of Performance for Existing Stationary Rotating Machinery. Subpart JJJJ of the NSPS is not applicable due to the manufacture date being earlier than July 1, 2008. Subpart ZZZZ of the NESHAPS is applicable to reciprocating internal combustion engines, but the generator is exempt because it is an existing 4-stroke rich burn engine rated at less than 500 horsepower.
Fugitive Dust	Not Applicable	Control Measures	<u>A.A.C.</u> R18-2-604.A R18-2-604.B R18-2-605 R18-2-606 R18-2-607 R18-2-614 R18-2-702.B	The regulations listed are applicable to fugitive dust sources
Abrasive Blasting	Not Applicable	Wet blasting, enclosure, or equivalent (approved by Director)	<u>A.A.C.</u> R18-2-726 R18-2-702.B	Relevant requirements applicable to abrasive blasting
Spray Painting	Not Applicable	Control measures that attain 96% efficiency	<u>A.A.C.</u> R18-2-727 R18-2-702.B	Relevant requirements applicable to spray painting
Mobile Sources	Not Applicable	Control Measures	<u>A.A.C.</u> R18-2-801 R18-2-802 R18-2-804	These regulations are applicable to all mobile sources
Demolition/Renovation	Not Applicable	None	<u>A.A.C.</u> R18-2-1101.A.8 (NESHAP for asbestos)	Relevant requirements applicable to demolition and renovation operations

## VI. PREVIOUS PERMIT AND CONDITIONS

A. Previous Permit

The following table lists the previous permit that has been issued to El Paso Natural Gas, Hackberry Station.

**Previous Permits**

Date Permit Issued	Permit #	Application Basis
4/21/2004	27898	Class I Permit

B. Previous Permit Conditions

The following is a discussion regarding the previous permit that was issued to the source.

**TITLE V OPERATING PERMIT No. 27898**

This operating permit was issued to the EPNG, Hackberry Compressor Station on April 21, 2004, to operate two natural gas-fired turbine engines.

Condition No.	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Attachment.A	x				Revised to represent most recent permitting language.
Att. B. I.A		x			Facility Wide Limitations have been revised to represent most recent permitting language.
Att. B.I.B		x			Facility Wide Limitations now includes a section for monitoring, recordkeeping, and reporting requirements.
Att. B. II		x			Section is has been renamed Stationary Rotating Machinery.
Att. B. II.A1	x				Any daily period which sulfur content of the fuel exceeds 0.8% must be reported.
Att. B. II.A.2	x				The emergency generator is limited to no more than 500 hours per year.
Att. B. II.B		x			Particulate Matter and Opacity conditions have been kept.
Att. B. II.B.2		x			Monitoring and Recordkeeping and Reporting Requirements now represent most recent permitting language.
Att. B. II.C			x		Performance test requirements for

Condition No.	Determination				Comments
	Revise	Keep	Delete	Stream-line	
					NOx has been removed. The turbines do not have the potential to emit more than 100 tons per year on an individual basis.
Att. B. II.D			x		Performance test requirements for CO has been removed. The turbines do not have the potential to emit more than 100 tons per year on an individual basis.
Att. B. III		x			Nonpoint Source Requirements now included as Fugitive Dust Requirements.
Att. B. IV		x			Mobile Source Requirements now includes most recent permitting language.
Att. B. V		x			Other Periodic Activity Requirements now includes most recent permitting language.
Attachment C		x			Equipment List

## VII. PERIODIC MONITORING

### A. Stationary Rotating Machinery

The Permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform a quarterly survey of visible emission from the stationary rotating machinery when in operation. If the opacity of the emissions observed during the initial survey appears to exceed 40%, the observer is required to conduct a certified EPA Reference Method 9 observation. If the observation shows a Method 9 opacity reading in excess of 40%, the Permittee is required to report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity to a level below 40%.

### B. Fugitive Dust

1. The Permittee is required to keep record of the dates on which any of the dust control measures are employed.
2. The Permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform a quarterly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
3. The Permittee is required to keep records of the name of the observer, the time,

date, and location of the observation and the results of all surveys and observations.

4. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

### VIII. INSIGNIFICANT ACTIVITIES

The following table includes a list of activities proposed by EPNG, Hackberry Compressor Station to be insignificant. This table includes an evaluation of whether the activity can be deemed as insignificant pursuant to A.A.C. R18-2-101.57.

#### Insignificant Activities

Equipment/ Activity	Determination	Comment
Cummins Emergency Generator 310 hp, model Number GTA855	Not Insignificant	Subject to R18-2-719
Internal Combustion engine-driven compressors, IC engine-driven electrical generator sets used only for emergency replacement or standby service	Not Insignificant	Subject to R18-2-719
Petroleum-based solvent tanks less than 10,000 gallons (solvent with a vapor pressure less than gasoline)	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.b
Lube oil storage tanks	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.c
Minor natural gas-fired appliances, if the aggregate rate is less than 500,000 Btu/hr (hot water heaters, HVAC, etc.)	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Temporary hydrostatic test water evaporation ponds	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Pressure tanks	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Used oil systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
General maintenance of regulated emissions units, including, but not limited to, oil filter replacement (including drainage of oil filters), and work on the engine jacket water system	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Fan systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j

Equipment/ Activity	Determination	Comment
Maintenance and use of inertial separators (to filter air intake into the gas turbine engines)	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Exercise of standby equipment	Not Insignificant	Standby IC engines will be subject to R18-2-719. Other equipment will be evaluated on a case by case basis.
Domestic wastewater systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Plant water and wastewater system	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Emergency shut down system and pressure relief valves	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Blowdown activities	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Scrubber liquid systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Oil/water separator systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Cathodic protection systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Vents, valves and flanges	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Solvent degreasing	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Cooling water systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
General plant maintenance, construction and upkeep activities not associated with the Permittee's primary business activity, and not otherwise triggering a permit modification	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding, or turning of precision parts, leather, metals, plastics, fiber board, masonry, carbon, glass or wood	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.f
Use of consumer office products	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j

Equipment/ Activity	Determination	Comment
Use and maintenance of electric driven equipment for general location maintenance including but not limited to a bench grinder, drill press, pipe threader and lathe	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Steam cleaning activities	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Welding activities	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Laboratory equipment	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.i
Safety equipment	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Uninterruptible power supply systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Utility pumps and systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j
Use of chlorination systems	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j



## XII. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
Btu/ft <sup>3</sup>	British Thermal Units per Cubic Foot
Btu/hr	British Thermal Units per Hour
CFR	Code of Federal Regulations
CO	Carbon Monoxide
EPNG	El Paso Natural Gas Company
FERC	Federal Energy Regulatory Commissions
HAP	Hazardous Air Pollutant
hp	Horsepower
lb/hr	Pound per Hour
NO <sub>x</sub>	Nitrogen Oxides
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter Nominally less than 10 Micrometers
SO <sub>x</sub>	Sulfur Oxides
VOC	Volatile Organic Compound