

TECHNICAL REVIEW AND EVALUATION
AIR QUALITY PERMIT NO. 48825
El Paso Natural Gas Company

I. INTRODUCTION

This Class I, Title V renewal permit is issued to El Paso Natural Gas Company (EPNG) for operation of the Mohave Topock compressor station in Topock, Mohave County, Arizona. This permit renews and supersedes Permit #27956.

A. Company Information

Facility Name: Mohave Topock Compressor Station

Facility Address: 5499 West Needle Mountain Road
Topock, Arizona 86436

Mailing Address: El Paso Natural Gas Company
P.O. Box 1087
Colorado Springs, CO 80901

B. Attainment Classification

The area is attainment for all criteria pollutants.

C. Learning Sites Evaluation

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within two miles of the facility.

II. PROCESS DESCRIPTION

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 Mohave Topock 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 one Solar Saturn gas turbine and three natural-gas fired Cooper Bessemer engines. Two Caterpillar natural gas fired electric generators (one primary / one standby) provide primary electrical power. Two Onan emergency generators are maintained to provide electricity during outages. The facility is attended during the day shift.

The facility has a potential to emit greater than the major source thresholds of nitrogen oxides (NO_x), carbon monoxide (CO), and formaldehyde. Other emissions from the facility include volatile organic compounds (VOCs), sulfur dioxide (SO₂), and particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀).

III. COMPLIANCE HISTORY

There have been 36 inspections of this facility since 1995. No cases or violations have developed as a

result of the inspections.

IV. EMISSIONS

The emissions from this facility are the result of the combustion of natural gas in the Cooper Bessemer engines, the Solar gas turbine, the Caterpillar generators, the Onan emergency generator. Table-1 below provides the facility's potential to emit (PTE).

Table 1: PTE of Facility

Pollutant	Total Tons per year (tpy)
NO _x	353
CO	462
VOC	94.4
SO ₂	1.09
PM ₁₀	16.4
Formaldehyde	23.7

Notes:

1. Emissions of NO_x, CO, and VOC for the Cooper Bessemer engines and the Caterpillar engines are based on pound per hour limits contained in the permit.
2. All other emissions are based on AP-42 emission factors.
3. Emissions from all equipment are based on continuous operation.

V. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and verification as to why that standard applies.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Verification
Cooper Bessemer engines	None	A.A.C. R18-2-719.B	These standards are applicable to existing stationary rotating machinery.
Caterpillar generators		A.A.C. R18-2-719.C.1	
Onan emergency generators		A.A.C. R18-2-719.E A.A.C. R18-2-719.J	
			The engines and generators are not subject to NSPS Subpart IIII because they are not compression ignition engines.
			The engines and generators are not subject to NSPS Subpart JJJJ because they were constructed prior to July 1, 2008.
			The National Emission Standard for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ is applicable to reciprocating internal combustion engines located at major and area sources of HAPs. The Cooper Bessemer engines are exempt because they are existing 2-stroke lean burn engines. The Caterpillar generators are exempt because they are existing 4-stroke lean burn engines. The Onan emergency generators are exempt because they are existing

Unit	Control Device	Rule	Verification
			4-stroke rich burn engines rated at less than 500 horsepower.
Fugitive dust sources	Water and other reasonable precautions	A.A.C. R18-2-604.A,B A.A.C. R18-2-605.A,B A.A.C. R18-2-606 A.A.C. R18-2-607.A,B A.A.C. R18-2-614 A.A.C. R18-2-702.B	These are applicable to fugitive dust sources at the facility.
Mobile sources	Water Sprays/Water Truck for dust control	A.A.C. R18-2-801.A,B A.A.C. R18-2-802.A,B A.A.C. R18-2-804.A,B	These are applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
Spray Painting	N/A	A.A.C. R18-2-702.B A.A.C. R-18-2-727.A,B,C,D	These standards are applicable to any spray painting operation.
Abrasive Blasting	Wet blasting, Dust collecting equipment or other approved methods	A.A.C. R-18-2-702.B A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Demolition or Renovation Operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

VI. PREVIOUS PERMIT CONDITIONS

Table 3 compares the substantive conditions in Permit No. 27956 with the conditions in this renewal permit and cross-references the previous permit conditions to their location in the renewal permit

Table 3: Comparison of Previous and Current Permit Conditions

Condition # in Permit No. 27956	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Attachment A			x		This Attachment has been revised and the most recent Attachment "A" is used for this permit.
Attachment B					
Condition I.A		x			This condition to have an EPA method 9 certified observer available has been retained.
Condition I.B		x			The condition to require the reporting of all required monitoring activities has been retained.
Condition I.C		x			This condition to allow only one Caterpillar generator to operate at a time has been retained.

Condition # in Permit No. 27956	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition I.D.1	x				This condition to require records of emissions related maintenance is unnecessary because Attachment "A" requires the retention of maintenance records.
Condition I.D.2			x		This condition to require the recording of times when both Caterpillar generators are operating simultaneously has been changed to require the recording of dates and times of operations of each generator.
Condition II.B.1			x		This fuel condition has been revised from pipeline quality natural gas to natural gas as defined in 40 CFR 72.2. The previous condition was ambiguous as the permit contained no definition of pipeline quality natural gas.
Condition II.B.2	x				This limit on hourly natural gas usage of the Cooper Bessemer engines has been removed since it is equivalent to the pound per hour emission limitations.
Condition II.B.3	x				This limit on hourly natural gas usage of the Caterpillar generators has been removed since it is equivalent to the pound per hour emission limitations.
Condition II.B.4	x				This condition requiring the recording of fuel usage of the Cooper Bessemer engines and the Caterpillar generators has been removed since it is unnecessary in light of the removal of the natural gas usage limitations.
Condition II.C.1.a		x			This opacity standard has been retained.
Condition II.C.1.b		x			This opacity standard has been retained.
Condition II.C.1.c		x			This PM standard has been retained.
Condition II.C.1.d		x			This PM standard has been retained.
Condition II.C.2.a		x			This requirement to conduct quarterly opacity observations has been retained.
Condition II.C.2.b		x			This requirement to conduct quarterly opacity observations has been retained.
Condition II.C.2.c		x			This requirement to conduct quarterly opacity observations has been retained.

Condition # in Permit No. 27956	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition II.C.2.d		x			This fuel monitoring requirement has been retained.
Condition II.D.1.a		x			This NO _x standard has been retained.
Condition II.D.1.b		x			This NO _x standard has been retained.
Condition II.D.2	x				The Solar gas turbine has been removed from service.
Condition II.D.3.a		x			This NO _x performance test requirement has been retained.
Condition II.D.3.b		x			This NO _x performance test requirement has been retained.
Condition II.D.3.c	x				The Solar gas turbine has been removed from service.
Condition II.E.1.a		x			This CO standard has been retained.
Condition II.E.1.b		x			This CO standard has been retained.
Condition II.E.2.a		x			This CO performance test requirement has been retained.
Condition II.E.2.b		x			This CO performance test requirement has been retained.
Condition II.F.1		x			This fuel sulfur content monitoring requirement has been retained.
Condition II.F.2			x		This fuel recordkeeping requirement has been revised to require appropriate documentation to demonstrate 20.0 grains per 100 scf.
Condition II.G.1.a		x			This VOC standard has been retained.
Condition II.G.1.b		x			This VOC standard has been retained.
Condition II.G.2.a		x			This VOC performance test requirement has been retained.
Condition II.G.2.b		x			This VOC performance test requirement has been retained.

Condition # in Permit No. 27956	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition III		x			These general standards for non-point sources have been revised and moved to Condition III.
Condition IV			x		These general standards for mobile sources have been revised and moved to Condition IV.
Condition V			x		These general standards for periodic activity have been revised and moved to Condition V.

VII. MONITORING AND RECORDKEEPING REQUIREMENTS

A. Facility Wide

1. Along with the semiannual compliance certification, the Permittee is required to submit reports of all recordkeeping, monitoring and maintenance required by the permit.
2. The Permittee is required to maintain, on-site, records of the manufacturer's specifications or an Operation and Maintenance Plan for all equipment listed in the permit.

B. Stationary Rotating Machinery

1. The Permittee is required to show compliance with the opacity standard in Attachment "B", Section II by having a Method 9 certified observer perform a quarterly survey of visible emissions from the stacks of the stationary rotating machinery. 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.
2. 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.
3. 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.
4. The Permittee is required to maintain appropriate documentation to demonstrate compliance with the fuel sulfur requirements and fuel heating value monitoring requirements.
5. The Permittee is required to keep records of the dates and times of operation of the Caterpillar generators to show compliance with the requirement to only operate one generator at a time except for periods of startup, shutdown, and switching.

B. Fugitive Dust

1. The Permittee is required to keep record of the dates on which any of the dust control measures contained in Attachment "B", Conditions III.B.1.a.(3)(a) through III.B.1.a.(3)(h) are employed.
2. The Permittee is required to show compliance with the opacity standards in Attachment "B", Section V 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.

C. Mobile Sources

The Permittee is required to keep records of all emission related maintenance performed on the mobile sources.

D. Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.
2. The Permittee is required to record the date, duration, and quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.
3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

VIII. TESTING REQUIREMENTS

- A. The Permittee is required to conduct two EPA Method 20 tests for NO_x emissions on each Cooper Bessemer engine and each Caterpillar generator. One of the tests would be required to be performed during the first year of the permit term and the other test would be performed in accordance with Table 4.

Table 4: Testing Schedule

Year of Permit Term	Equipment to be Tested
2 nd year	One Cooper Bessemer engine and one Caterpillar Generator
3 rd year	One Cooper Bessemer Engine and One Caterpillar Generator
4 th year	One Cooper Bessemer Engine

- B. The Permittee is required to conduct two EPA Method 10 tests for CO emissions on each Cooper Bessemer engine and each Caterpillar generator. One of the tests would be required to be performed during the first year of the permit term and the other test would be performed in accordance with Table 4 above.
- C. The Permittee is required to conduct a once per permit term EPA Method 25A test for VOC emissions on each Cooper Bessemer engine and each Caterpillar generator.

IX. INSIGNIFICANT ACTIVITY

Table 5, below, lists insignificant activities conducted by the Permittee.

Table 5: Insignificant Activities

Equipment/Activity	Verification of Insignificance
Lube oil storage tanks smaller than 40,000 gallons and contents less volatile than diesel.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Water heater and space heaters with aggregated capacity less than 500,000 BTU/hr.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Temporary hydrostatic test water evaporation ponds	A.A.C. R18-2-101.57.j Emissions will be insignificant
Pressure tanks	A.A.C. R18-2-101.57.j Emissions will be insignificant
Used oil systems. Tanks smaller than 40,000 gallons and contents less volatile than diesel.	A.A.C. R18-2-101.57.j Emissions will be insignificant
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.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Fan systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
Maintenance and use of inertial separators (to filter air intake into the gas turbine engines)	A.A.C. R18-2-101.57.j Emissions will be insignificant
Domestic wastewater systems	A.A.C. R18-2-101.57.j Emissions will be insignificant

Equipment/Activity	Verification of Insignificance
Plant water and wastewater system	A.A.C. R18-2-101.57.j Emissions will be insignificant
Emergency shut down system and pressure relief valves	A.A.C. R18-2-101.57.j Emissions will be insignificant
Blowdown activities	A.A.C. R18-2-101.57.j Emissions will be insignificant
Scrubber liquid systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
Oil/water separator systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
Cathodic protection systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
Vents, valve and flanges	A.A.C. R18-2-101.57.j Emissions will be insignificant
Solvent degreasing	A.A.C. R18-2-101.57.j Emissions will be insignificant
Cooling water systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
General plant maintenance, construction and upkeep activities not associated with the Permittee's primary business activity, and not otherwise triggering a permit modification.	A.A.C. R18-2-101.57.j Emissions will be insignificant
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.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Use of consumer office products.	A.A.C. R18-2-101.57.j Emissions will be insignificant
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.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Steam cleaning activities.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Welding activities.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Laboratory equipment used exclusively for chemical and physical analysis.	A.A.C. R18-2-101.57.i
Safety equipment	A.A.C. R18-2-101.57.j Emissions will be insignificant
Uninterruptible power supply systems	A.A.C. R18-2-101.57.j Emissions will be insignificant
Utility pumps and systems	A.A.C. R18-2-101.57.j Emissions will be insignificant

Equipment/Activity	Verification of Insignificance
Use of chlorination systems	A.A.C. R18-2-101.57.j Emissions will be insignificant

X. LIST OF ABBREVIATIONS

A.A.C..... Arizona Administrative Code
ADEQ..... Arizona Department of Environmental Quality
CFR Code of Federal Regulations
CO Carbon Monoxide
EPNG El Paso Natural Gas Company
HAPS Hazardous Air Pollutants
MSDS Material Safety Data Sheet
NESHAP National Emission Standards for Hazardous Air Pollutants
NO_x Nitrogen Oxides
NSPS New Source Performance Standards
PM Particulate Matter
PM₁₀..... Particulate Matter with an aerodynamic diameter less than 10 microns
PTE..... Potential-to-Emit
SO₂..... Sulfur Dioxide
TPY Tons per Year
VOC..... Volatile Organic Compound

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