

TECHNICAL REVIEW AND EVALUATION
AIR QUALITY PERMIT NO. 48823
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 Seligman compressor station located 9 miles east of Seligman in Yavapai County, Arizona. This permit renews and supersedes Permit #28161.

A. Company Information

Facility Name: Seligman Compressor Station

Facility Address: 9 miles east of Seligman on Crookton Road
Seligman, Yavapai County, Arizona 85337
N 35 17' 12", W 112 45' 26"

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 Seligman 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 gas turbines. An auxiliary generator is maintained to provide electricity during outages and turbine downtime. The Seligman Station has been automated and is unattended.

The facility has a potential to emit greater than the major source thresholds of nitrogen oxides (NO_x) and carbon monoxide (CO). Other emissions from the facility include volatile organic compounds (VOCs), sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than 10 microns (PM_{10/2.5}) and formaldehyde.

III. COMPLIANCE HISTORY

On September 29, 2009, ADEQ reviewed a performance test report (Inspection No. 147781), which was conducted on September 1, 2009 to determine compliance with the facility's NO_x emissions limit. The

test report indicated that the NO_x emissions limit was exceeded for an on-site turbine. As such, ADEQ issued a Notice of Violation (Case No. 113957) on October 20, 2009. On August 4, 2010, the facility fulfilled the compliance conditions listed in Case No. 113957 by submitting an amendment to the permit application, which included a plan to install a Continuous Emissions Monitoring System (CEMS) on the GE turbine indicated in Case No. 113957. The facility returned to compliance on August 4, 2010.

IV. EMISSIONS

The emissions from this facility are the result of the combustion of natural gas in the gas turbines and auxiliary 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	235
CO	115
VOC	24.2
SO ₂	0.49
PM _{10/2.5}	5.26
Formaldehyde	3.90
Total HAPS	<25

Notes:

1. Emissions of NO_x are based on tpy permit limit for the GE Turbine, and the PTE for the Solar and Generac Units.
2. All other emissions are based on AP-42 emission factors.
3. Emissions based on continuous operation of gas turbines and 450 hours per year of operation of the auxiliary generator.

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
GE Gas Turbine	None	A.A.C. R18-2-719.B A.A.C. R18-2-719.C.1 A.A.C. R18-2-719.E A.A.C. R18-2-719.J	These standards are applicable to existing stationary rotating machinery. The GE gas turbine was constructed prior to October 3, 1977, and is therefore not subject to New Source Performance Standard (NSPS) Subpart GG or KKKK. NESHAP Subpart YYYY is not applicable because the Seligman Station is not a major source of HAPS.
Generac Generator	Catalytic converter	40 CFR 63 Subpart ZZZZ	The generator is not subject to NSPS Subpart IIII because it is not a compression ignition engine. The generator is not subject to NSPS Subpart JJJJ because

Unit	Control Device	Rule	Verification
			it was constructed prior to January 1, 2009. The National Emission Standard for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ is applicable per 40 CFR 63.6603(a) which applies to an existing stationary generator located at an area source of HAPs.
Solar Gas Turbine	None	NSPS Subpart GG 40 CFR 60.332(a)(2) 40 CFR 60.332(c) 40 CFR 60.333(b) 40 CFR 60.334(h)(3)(i)	The Solar gas turbine was built after October 3, 1977, and has a heat input greater than 10 million Btu per hour. NESHAP Subpart YYYYY is not applicable because the Seligman Station is not a major source of HAPS.
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

Tables 3 and 4 compare the substantive conditions in Permit No. 28161 and Significant Revision No. 43749 with the conditions in this renewal permit.

Table 3: Comparison of Previous and Current Permit Conditions – Permit #28161

Condition # in Permit No. 28161	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 # in Permit No. 28161	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
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 require records of maintenance activities has been retained.
Condition II.B.1		x			This condition to require Lean Head Liners has been retained.
Condition II.B.2		x			This condition to require a catalytic converter has been retained.
Condition II.B.3			x		This hourly limitation has been revised from 600 hours per year to 450 hours per year.
Condition II.B.4			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.5		x			This condition to require records of hours of operation of the generator has been retained.
Condition II.C.1.a.(1)		x			This opacity standard has been retained..
Condition II.C.1.a.(2)		x			This PM standard has been retained.
Condition II.C.1.a.(3)		x			This PM standard has been retained.
Condition II.C.1.b.(1)		x			This requirement to conduct quarterly opacity observations has been retained.
Condition II.C.1.b.(2)		x			This requirement to conduct quarterly opacity observations has been retained.
Condition II.C.1.b.(3)		x			This fuel monitoring requirement has been retained.
Condition II.C.2.a.(1)			x		This NO _x standard for the GE Turbine was revised for this permit renewal to an annual limit of 192 tons/year.
Condition II.C.2.a.(2)			x		This NO _x standard has been revised from 7.3 lb/hr to 9.22 lb/hr with an associated decrease in the permitted hours of operation in order to keep total yearly emissions at the same level.
Condition II.C.2.b(1)	x				This NO _x performance test requirement deleted because the equipment will have a CEMS and an annual limit for NO _x .
Condition II.C.2.b(2)		x			This NO _x performance test for the auxiliary generator has been retained.
Condition II.C.2.b(3)		x			This NO _x performance test for the Solar Turbine has been retained.
Condition II.C.2.b(4)	x				The requirement to submit an alternate test method pursuant to 40 CFR 60, Appendix A has been deleted.
Condition II.C.3.a	x				This CO performance test requirement for the GE Turbine has been deleted.
Condition II.C.3.b		x			This CO performance test requirement for Generac Generator has been retained.

Condition # in Permit No. 28161	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition II.C.3.c		x			This CO performance test requirement has been retained.
Condition II.C.4.a		x			This fuel limitation has been retained.
Condition II.C.4.b			x		This fuel recordkeeping requirement has been revised to require appropriate documentation to demonstrate 20.0 grains per 100 scf.
Condition II.D.1.a.(1)		x			This NO _x standard has been retained.
Condition II.D.1.a.(2)			x		This NO _x standard was revised in Significant Revision #43749.
Condition II.D.1.b			x		This NO _x performance test requirement was revised in Significant Revision #43749.
Condition II.D.2.a		x			This CO performance test requirement for the Solar Turbine has been retained.
Condition II.D.2.b		x			This CO performance test requirement for the Solar Turbine has been retained.
Condition II.D.3.a		x			This fuel limitation has been retained.
Condition II.D.3.b.			x		This fuel monitoring requirement has been revised to reflect the requirements of NSPS Subpart GG.
Condition III			x		These general standards for non-point sources have been revised to match current language.
Condition IV			x		These general standards for mobile sources have been revised.
Condition V			x		These general standards for periodic activity have been revised.

Table 4: Comparison of Previous and Current Permit Conditions – Significant Revision #43749

Condition # in Permit No. 43749	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Attachment B					
Condition I.D	x				This facility-wide NO _x emission cap has been deleted since the source will now keep track of auxiliary generator and GE Turbine emissions separately as each unit has its own annual emission limit.
Condition I.E	x				This NO _x recordkeeping requirement has been deleted since the requirement for a total combined emissions basis has changed to an individual equipment based limit.
Condition I.F	x				This NO _x recordkeeping requirement has been deleted since it was tied to Condition I.E above which was deleted.

Condition # in Permit No. 43749	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition II.C.2.a.(1)			x		This NO _x standard has been revised to an annual limit of 192 tons per year. This number along with emissions from Solar turbine and Auxiliary generator, will limit the facility wide emission to 235 tons per year.
Condition II.C.2.a.(2)			x		This NO _x standard has been revised from 7.3 lb/hr to 9.22 lb/hr with an associated decrease in the permitted hours of operation in order to keep total yearly emissions at the same level.
Condition II.C.2.b.(1)	x				This NO _x performance test requirement for the GE turbine has been deleted since a CEMS is being installed. The source must now conduct an annual performance evaluation for the NO _x CEMS.
Condition II.C.2.b.(2)		x			This NO _x performance test requirement for the Generac Generator has been retained.
Condition II.C.2.b.(3)	x				The requirement to submit an alternate test method pursuant to 40 CFR 60, Appendix A has been deleted.
Condition II.C.2.c.(1)(i)		x			This requirement to operate a fuel flow meter has been retained.
Condition II.C.2.c.(1)(ii)		x			This fuel usage recordkeeping requirement has been retained.
Condition II.C.2.c.(1)(iii)	x				This NO _x recordkeeping requirement has been deleted. This was deleted since a CEMs will be installed and the unit is now limited based on an annual emissions restriction.
Condition II.C.2.c.(2)		x			This NO _x recordkeeping requirement has been retained.
Condition II.D.1.a.(1)		x			This NO _x standard has been retained.
Condition II.D.1.a.(2)		x			This NO _x standard has been retained.
Condition II.D.2.b.		x			This NO _x performance test requirement has been retained.
Condition II.D.2.c.(1)	x				This requirement to operate a fuel flow meter has been deleted since the permit is no longer based on a single facility wide emission limit.
Condition II.D.2.c.(2)		x			This fuel usage recordkeeping requirement has been retained.
Condition II.D.2.c.(3)		x			This NO _x recordkeeping requirement has been deleted. This requirement has been deleted since the permit is no longer based on a single facility wide emission limit.

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. GE Turbine and Generac Auxiliary Generator

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 a rolling 12-month total of hours of generator usage.
6. The Permittee is required to operate a fuel flow meter for the GE gas turbine and maintain monthly records of fuel usage.
7. The Permittee is required to install and maintain a CEMS to record the hourly NO_x emission rate in lbs/hr as well as tons per rolling 365-day total for the GE gas turbine.

C. NSPS Gas Turbine

1. The Permittee is required to maintain appropriate documentation to demonstrate compliance with the fuel sulfur requirements.
2. The Permittee is required to record monthly records of natural gas consumption.

D. 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 IV.B.1.a.iii.(a) through IV.B.1.a.iii.(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.

E. Mobile Sources

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

F. 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 annual EPA Method 20 performance tests for NO_x on the Solar gas turbine and shall perform annual evaluations of the NO_x CEMS for the GE turbine.
- B. The Permittee is required to conduct a once per permit term Method 7 performance test for NO_x on the generator during the first year of the permit term.
- C. The Permittee is required to conduct a once per permit term Method 10 performance test for CO on the GE gas turbine and the Solar gas turbine.

IX. COMPLIANCE ASSURANCE MONITORING (CAM) (40 CFR 64):

CAM only applies to emission units with an add-on control device. While the GE turbine has a control device to reduce NO_x emissions, the CAM rule states: "For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as...the use of combustion or other process design features or characteristics". The GE turbine is fitted with a Lean Head End Liner, which is considered a combustion process design feature. Therefore, CAM does not apply.

The auxiliary generator has a catalytic converter, which is an add-on control device, to control CO emissions. However, the CAM rule states: "The unit uses a control device to achieve compliance with any such emission limitation or standard." There are no emissions limitations or standards for CO for the auxiliary generator, and therefore, CAM does not apply.

X. 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

Equipment/Activity	Verification of Insignificance
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
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

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

XI. LIST OF ABBREVIATIONS

A.A.C.....	Arizona Administrative Code
ADEQ.....	Arizona Department of Environmental Quality
CAM.....	Compliance Assurance Monitoring
CFR.....	Code of Federal Regulations
CO.....	Carbon Monoxide
EPA.....	Environmental Protection Agency
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
PM _{10/2.5}	Particulate Matter with an aerodynamic diameter less than 10 microns
PTE.....	Potential-to-Emit
SO ₂	Sulfur Dioxide
TPY.....	Tons per Year
VOC.....	Volatile Organic Compound