

**TECHNICAL REVIEW AND EVALUATION
FOR
AIR QUALITY PERMIT NO. 49497
EI PASO NATURAL GAS—WENDEN COMPRESSOR STATION**

I. INTRODUCTION

This Class I, Title V renewal permit is issued to El Paso Natural Gas Company (EPNG) for operation of the Wenden Compressor Station located in Salome in LaPaz County, Arizona. This permit renews and supersedes Air Quality Control Permit Number 27910.

A. Company Information

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

Facility Address: El Paso Natural Gas Company Access Road
Salome, La Paz County, Arizona 85348
(Lat/long: 33.538887, -113.45416)

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

B. Attainment Classification

The facility is located in an area classified as 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. BACKGROUND INFORMATION

The facility was issued a Title V Renewal Permit No. 27910 on August 10, 2004. Subsequently, a minor permit revision, Permit No. 46346 was issued on May 27, 2008, to update the serial number for the Solar gas turbine to reflect a like-kind component exchange performed.

III. 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 Wenden Compressor 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 regenerative cycle turbine engines (an 8500 horsepower (hp) General Electric gas turbine engine and a 4500 hp Solar gas turbine engine) that drive the compressor units. When the turbine is not operating, primary electric power is generated by a 250 horsepower Waukesha emergency generator. The Wenden Compressor Station has been automated and the location is unattended.

From a common pipeline system, natural gas flows into the centrifugal compressor which is driven by the natural-gas fueled turbine engines. The GE and Solar gas turbine engines operate depending on the amount of natural gas being transported to various customers along the pipeline system.

IV. EMISSIONS

The facility has a potential to emit greater than the major source thresholds of nitrogen oxides (NO_x). Other emissions from the facility include sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀) and volatile organic compounds (VOCs) and formaldehyde. The facility's PTE is provided in Table-1 below:

Table 1: Facility Wide Emissions

Pollutant	Emissions, Tons/year
NO _x	214.47
PM _{2.5}	4.41
PM ₁₀	4.41
CO	56.48
SO _x	2.27
VOCs	1.41
Formaldehyde	2.37
Total HAPS	5.58

Notes:

1. Formaldehyde emissions based on EPA emission factor in EPA publication titled, "*Locating and Estimating Air Emissions From Sources of Formaldehyde*" published March of 1991 (EPA 450/4-91-012). All other emissions are based on *The Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources* (AP-42) emission factors.
2. Emissions are based on continuous operation of General Electric and Solar gas turbines and 500 hours per year for the emergency generator.

V. COMPLIANCE HISTORY

There have been 40 inspections of this facility since March 2005. No cases or violations have developed as a result of the inspections. There are no current violations associated with this facility.

VI. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and their verification.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Verification
<p>GE Gas Turbine Engine</p> <p>Waukesha Reciprocating Engine (4-Stroke Rich-burn engine)</p>	<p>None</p>	<p>A.A.C. R18-2-719</p> <p>40 CFR §63 Subpart ZZZZ</p>	<p>These standards are applicable to existing stationary rotating machinery.</p> <p>The engines and generators are not subject to NSPS Subpart JJJJ because they were constructed prior to July 1, 2008.</p> <p>The National Emission Standard for Hazardous Air Pollutants (NESHAP) Subpart YYYY is applicable to stationary combustion turbines located at major sources of hazardous air pollutants (HAP) emissions. This facility is not a major source of HAPs. Hence, Subpart YYYY is not applicable.</p> <p>NESHAP Subpart ZZZZ is applicable to stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAPs. However, as per 40 CFR §63.6590(b)(3), a stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source does not have to meet the requirements of 40 CFR §63 Subpart ZZZZ.</p>
<p>Solar Gas Turbine Engine</p>	<p>None</p>	<p>40 CFR 60 Subpart GG</p>	<p>The Solar gas turbine was constructed after October 3, 1977, and are therefore subject to New Source Performance Standard (NSPS) Subpart GG.</p> <p>NSPS Subpart KKKK is applicable to stationary combustion turbines that commenced construction, modification or reconstruction after February 18, 2005. The Solar turbine was constructed prior to this date and, hence, is not subject to NSPS Subpart KKKK. (In April 2007, the Solar turbine component was exchanged with like component. There was no increase in capacity or emissions due to this component exchange. Thus, it is not considered a modification, and hence, this turbine is not subject to NSPS Subpart KKKK.)</p> <p>NESHAP Subpart YYYY is applicable to stationary combustion turbines located at major sources of HAPs. This facility is not a major source of HAPs. Hence, Subpart YYYY is not applicable.</p>
<p>Fugitive dust sources</p>	<p>Water and other reasonable precautions</p>	<p>A.A.C. R18-2 Article 6</p> <p>A.A.C. R18-2-702.B</p>	<p>These are applicable to fugitive dust sources at the facility.</p>

Unit	Control Device	Rule	Verification
Mobile sources	Water Sprays/Water Truck for dust control	A.A.C. R18-2 Article 8	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	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.

VII. PREVIOUS PERMIT CONDITIONS

A. Previous Permits

The following table lists the previous permits that have been issued to El Paso Natural Gas Company.

Table 3: Previous Permits

Permit #	Issue Date	Application Basis
27910	August 10, 2004	Title V Operating Permit
46346	May 27, 2008	Minor Permit Revision

B. Previous Permit Conditions

The following tables compare the substantive conditions in Permit Nos. 27910 and 46346 with the conditions in this renewal permit and cross-reference the previous permit conditions to their location in the renewal permit.

Table 4: Comparison of Previous and Current Permit Conditions

Permit No. 27910

Condition # in Permit No. 27910	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.

Condition # in Permit No. 27910	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
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, and relocated as Condition I.B.2.
Condition I.C	x				This recordkeeping requirement for emissions related maintenance activities is unnecessary as Attachment "A" requires the retention of maintenance records. Hence, this is deleted.
Condition II.B.1			x		This condition for burning of "pipeline quality natural gas" has been revised to "natural gas".
Condition II.B.2.a		x			This condition for particulate matter and opacity emission standards is relocated as Condition II.D.1.
Condition II.B.2.b		x			The monitoring, reporting and recordkeeping requirements for particulate matter and opacity are relocated under Condition II.D.2.
Condition II.B.3			x		This condition for NO _x testing requirements is relocated as Condition II.E. The CO testing requirement is deleted as the CO emissions for each engine are less than 100 tons per year, and there is no applicable emission standard to measure against.
Condition II.B.4.a		x			This requirement for use of high sulfur fuel is relocated as Condition II.B.1.
Condition II.B.4.b		x			This requirement for maintaining records of sulfur in natural gas is relocated as Condition II.B.2.
Condition II.C.1.a			x		This condition for burning of "pipeline quality natural gas" has been revised to "natural gas" and is renumbered as Condition III.B.1. .
Condition II.C.1.b		x			This condition for operation of dry low NO _x combustor is renumbered as Condition III.C.2.
Condition II.C.2.a		x			This condition for NO _x emission standard is renumbered as Condition III.C.1.

Condition # in Permit No. 27910	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition II.C.2.b		x			This NO _x performance testing has been retained and is renumbered as Condition III.C.3.
Condition II.C.3.a		x			This requirement of natural gas sulfur content is relocated as Condition III.B.1.
Condition II.C.4.b			x		This fuel monitoring and recordkeeping requirement has been revised to require appropriate documentation to demonstrate 20.0 grains per 100 scf, and is relocated as Condition III.B.2.
Condition II.D	x				The CO testing requirement is deleted as the CO emissions for the engine are less than 100 tons per year, and there is no applicable emission standard to measure against.
Section III			x		These requirements for non-point sources have been updated with the most recent version used by ADEQ for general requirements. This Section is renamed as "Fugitive Dust Requirements". This section is renumbered as Section IV.
Condition IV			x		These requirements for mobile sources have been updated with the most recent version used by ADEQ for general requirements. This section is renumbered as Section V.
Condition VI			x		These requirements for periodic activities have been updated with the most recent version used for general requirements. This section is renumbered as Section VI.

Permit No. 46346

Condition # in Permit No. 27910	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Equipment List		x			The updated serial number for the Solar gas turbine to reflect a like-kind component exchange performed in April 2007 is retained.

VIII. MONITORING, RECORDKEEPING AND TESTING REQUIREMENTS

A. Non NSPS Turbine and Engine

1. The Permittee is required to maintain appropriate documentation to demonstrate compliance with the fuel sulfur requirements and fuel heating value monitoring requirements.
2. The Permittee is required to perform a quarterly survey of visible emissions from the stacks of the engines. If the results of the initial survey appear on an instantaneous basis to exceed the applicable standard, the Permittee is required to conduct a 6-minute Method 9 observation. If the observation shows the opacity reading in excess of the standard, the Permittee must report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity to a level below the standard. 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 maintain daily, monthly and 12-month total hours of operation for the Waukesha generator, including operation for the purpose of maintenance checks and readiness testing.
4. The Permittee is required to conduct performance tests on the GE turbine engine for nitrogen oxides, once per permit term, to determine compliance with the applicable emission limits.

B. NSPS Turbine

1. The Permittee is required to maintain appropriate documentation to demonstrate compliance with the fuel sulfur requirements and fuel heating value monitoring requirements.
2. The Permittee is required to perform annual performance tests the Solar turbine engine for nitrogen oxides to determine compliance with the applicable emission limits as per the procedures outlined in 40 CFR 60.335, and using EPA Reference Method 20 to determine NO_x emissions.

VIII. INSIGNIFICANT ACTIVITIES

The following table includes a list of activities proposed by EPNG Wenden 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.

Table 5

Equipment/Activity	Determination	Comment
Lube oil storage tanks (less than 40,000 gallons)	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.c
Minor natural gas-fired appliances (space heaters and water heaters)	Insignificant	Insignificant pursuant to A.A.C. R18-2-101.57.j

IX. LIST OF ABBREVIATIONS

A.A.C.....	Arizona Administrative Code
ADEQ.....	Arizona Department of Environmental Quality
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	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