

**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT No. 78289**

I. INTRODUCTION

This Class I, Title V, renewal permit is issued to El Paso Natural Gas Company, L.L.C. (EPNG), the Permittee, for operation of the Willcox Compressor Station located on Arzberger Road, six miles east of Kansas Settlement Road, in Cochise County, Arizona. This permit renews and supersedes Permit #61325.

A. Company Information

1. Facility Name: El Paso Natural Gas Company, L.L.C.
Willcox Compressor Station
2. Facility Location: N 32° 06' 42", W 109° 39' 42"
Arzberger Road, 6 miles E of Kansas Settlement Road
Willcox, Cochise County, Arizona 85643
3. Mailing Address: El Paso Natural Gas Company, L.L.C.
5151 E. Broadway, Suite 1680
Tucson, AZ 85711

B. Attainment Classification

The facility location in Cochise County is classified at 40 CFR 81.303 as attainment or unclassifiable for all criteria pollutants.

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 Willcox Station provides compression for a dedicated lateral line service to end users in Mexico. Compression is accomplished at the Willcox Station by two centrifugal compressors in parallel configuration driven by natural gas-fired combustion turbines. The turbine engines operate depending on the amount of natural gas being transported to meet customer demand along the lateral service line. The Willcox Station has been automated and the location is unattended. Primary electric power for the facility is purchased power. In addition to the gas-fired turbines, an emergency generator is maintained on site for use during power outages. Due to the unattended and automated status of the station, by operational design, the emergency generator starts in response to control signals and ramps up to service duty with no extended time at idle. Similarly, once the demand for emergency power has ended, the engine ramps down and shuts off, with no extended time at idle.

The new facility, the Dragoon Compressor Station, is proposed be constructed northeast of EPNG's existing Willcox Compressor Station, on the same land parcel. This compressor station will operate independently of the existing Willcox Compressor Station and will be dedicated toward mainline compression on the existing transmission pipelines.

The gas turbines are the primary source of air pollutant emissions. The facility has a potential to emit greater than the major source threshold of nitrogen oxides (NO_x) and carbon monoxide (CO). Other emissions from the facility include, particulate matter with an aerodynamic diameter less than or equal to ten microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), volatile organic compounds (VOC), sulfur dioxide (SO₂) and hazardous air pollutants (HAP).

III. COMPLIANCE HISTORY

Since the issuance of Permit No. 61325, there have been five inspections and the facility is in compliance with the applicable permit conditions. No air quality cases or violations were issued during the permit term.

IV. EMISSIONS

The facility has a potential-to-emit (PTE) more than the major source thresholds of nitrogen oxides (NO_x) and Carbon Monoxide (CO). The facility's PTE is provided in Table-1 below:

Table 1: Potential to Emit

Pollutant	Emissions (tons per year)
NO _x	623
CO	100.4
PM ₁₀ = PM _{2.5}	8.5
VOC	4.6
SO ₂	4.4
Total HAPs	3.9

V. APPLICABLE REGULATIONS

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

Table 2: Applicable Regulations

Unit	Date of Manufacture	Control Device	Rule	Verification
Facility wide	na	na	<u>40 CFR 60</u> -5365a(j) -5370a(a) -5370a(b) -5397a(a) -5397a(b) -5397a(c) -5397a(d) -5397a(e) -5397a(f)(2) -5397a(g) -5397a(h) -5397a(i) -5397a(j) -5410a -5410a(j) -5415a(h) -5420a(b) -5420a(b)(1) -5420a(b)(11) -5420a(b)(7) -5420a(c)(15) -5430a	In accordance with 40 CFR Subpart OOOOa, the facility will become subject to the applicable conditions of this subpart upon startup of the new Dragoon (Solar/Mars 13000 S) compressor. The basis for this applicability determination is found under 40 CFR 60 Subpart OOOOa, 60.5370a(j), where “a “modification” to a compressor station occurs when an additional compressor is installed at a compressor station”. Thus, a “modification” to the Willcox Compressor Station will occur on installation of the additional compressor station. Thus the facility is subject to the applicable requirements for the control of greenhouse gases (GHG) under 40 CFR 60 Subpart OOOOa.

Unit	Date of Manufacture	Control Device	Rule	Verification
Gas Turbines C-1 and C-2	C-1 1977 C-2 1972	none	<u>A.A.C.</u> R18-719.B R18-719.C.1 R18-719.E R18-719.I	<p>These standards are applicable to existing stationary rotating machinery.</p> <p>The GE gas turbines are not subject to NSPS Subpart GG or KKKK because they were manufactured prior to the applicability dates of October 3, 1977, and February 18, 2005, respectively.</p> <p>The facility is an area source of HAP, therefore not subject to NESHAP Subpart YYYY, which is, applicable to gas turbines located at stationary sources, which are major for HAP.</p>
Emergency Generator C-Aux-1	1991	none	<u>A.A.C.</u> R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.I <u>40 CFR 63</u> -6603(a), -6605(b), -6625(e), -6625(f), -6625(j), -6640(f)(1), (2) & (4) -6650(h), -6655(e), -6655(f), 40 CFR Subpart ZZZZ, Table 2d.	<p>These standards are applicable to existing stationary rotating machinery.</p> <p>This engine is subject to the noted sections of NESHAP Subpart ZZZZ, because it is a SI-RICE, < 500 hp, at an area source of HAP emissions, constructed before June 12, 2006.</p> <p>This engine is not subject to New Source Performance Standards (NSPS) Subpart JJJJ because it was constructed prior to June 12, 2006.</p>

Unit	Date of Manufacture	Control Device	Rule	Verification
Emergency Generator A-Aux-1	2019	None	<u>40 CFR 60</u> -4243(d)(1) -4243(d)(2) -4243(d)(3) -4234 -4233(e) -4237(a) -4243(a)(1) -4243(b) -4243(a)(2) -4245(a) -4245(b) -4245(d)	This engine is subject to NSPS Subpart JJJJ because it was constructed after June 12, 2006
Gas Combustion Turbine A-01	2019	None	<u>40 CFR 60</u> -4320 -4330(a)(2) -4333(a) -4340(a) -4365(a) -4375(b) -4400(a) -4400(b)(4) -4400(b) <u>A.A.C.</u> R18-2-306.A.3.a R18-2-306.A.3.c R18-2-306.A.4 R18-2-306.A.5 R18-2-306.01.A R18-2-311.D R18-2-312.B R18-2-312	The new Solar turbine is subject to NSPS requirements under 40 CFR 60 Subpart KKKK because it was constructed after 2005.
Fugitive Dust Sources	na	Water trucks, dust suppressants	<u>A.A.C.</u> R18-2-604.A R18-2-604.B R18-2-605 R18-2-606 R18-2-607 R18-2-702.B	These standards are applicable to all fugitive dust sources at the facility.

Unit	Date of Manufacture	Control Device	Rule	Verification
Abrasive Blasting	na	Wet blasting; Dust collecting equipment; Other approved methods	<u>A.A.C.</u> R-18-2-702.B R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting	na	Enclosures	<u>A.A.C.</u> R18-2-702.B R-18-2-727	This standard is applicable to any spray painting operation.
Demolition/ Renovation Operations	na	N/A	<u>A.A.C.</u> R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

VI. PREVIOUS PERMIT AND CONDITIONS

A. Previous Permit Conditions

Table 3 compares the sections in Permit #61325 with the conditions in this renewal permit:

Table 3: Conditions for Permit No. 61325

Section No.	Determination			Comments
	Revised	Keep	Delete	
Att. "A"	X			General Provisions: Revised to represent the most recent template language
Att. "B"				
Section I	X			Facility wide requirements: Revised to represent the most recent template language
Section II		X		Gas Turbine Engines
Section III		X		Emergency Generator Subject to 40 CFR 63 Subpart ZZZZ
Section IV	X			Fugitive Dust Requirements: Revised to represent the most recent template language
Section V			X	Mobile Source Requirements: No longer included in air quality individual permits
Section VI		X		Other Periodic Activities
Att. "C"	X			Equipment List: Revised to include new equipment for the Dragoon compressor station added with Significant Permit Revision No. 70818.

VII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

A. Facility Wide

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. Fugitive Dust

1. The Permittee is required to keep record of the dates and types of dust control measures employed.

C. 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, 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. GE Turbines**

The Permittee is required to conduct an annual performance test for NO_x on each gas turbine using EPA Reference Method 20 or an equivalent approved method.

B. Solar Turbine

1. The Permittee is required to conduct annual performance tests for NO_x in accordance with the performance test procedure in 40 CFR 60 Subpart KKKK.
2. Additionally, to demonstrate on going compliance with the emission limits, the Permittee is required to conduct periodic stack testing for NO_x emissions using a portable analyzer in accordance with ASTM Test Method D6522.

C. GHG and VOC Fugitive Emissions

1. The Permittee is required to develop an emissions monitoring plan that covers the collection of fugitive emissions components at compressor stations.
2. The Permittee is required to conduct an initial monitoring survey of the compressor stations within 60 days of the startup of Dragoon Compressor Station.
3. Subsequent surveys shall be conducted at least quarterly after the initial survey.

IX. AMBIENT AIR IMPACT ANALYSIS

In association with Significant Permit Revision No. 70818 ADEQ performed an ambient air impact analysis. Although EPNG elected to conduct a RACT analysis for the new emission unit, ADEQ performed an additional modeling analysis to determine if such a modification would interfere with the attainment or maintenance of the NAAQS.

ADEQ used the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD, version 16216r) for the modeling analysis. ADEQ used the Plume Volume Molar Ratio Method (PVMRM) to evaluate the compliance with 1-hour NO₂, which was consistent with the method used in the previous PSD modeling. Additionally, ADEQ used the same in-stack ratio, hourly ozone dataset and meteorological dataset as used in the PSD modeling. EPNG provided ADEQ the facility layout map, the stack parameters for the new stack, as well as the information for new buildings. The modeled results were summarized in Table 4

Table 4: Modeled Results for 1-hour NO₂

Ambient Impact from the existing emission units (µg/m ³) ^a	Ambient Impact from the new emission unit (µg/m ³) ^b	Total Ambient Impact (µg/m ³) ^c	NAAQS (µg/m ³)
173	3.4	176.4	188

^a From TSD for Class I Significant Revision No. 54971. Background concentration was included.

^b Based on the 98th percentile of the annual distribution of maximum daily 1-hour concentrations, averaged across the 5 years of meteorological data modeled.

^c This estimation is conservative since the highest impacts from the existing emission units and the new emission unit unlikely occurred at the same location at the same time

Based on the modeled results above, it is concluded that the emissions from the new unit will not interfere with attainment and maintenance of the NAAQS for 1-hour NO₂. Considering the magnitude of the NO_x emissions from the new emission unit (approximately 27 tpy), ADEQ also determined that the 8-hour ozone impacts due to the emissions from the new unit would be below the significant impact level (SIL) of 1.0 ppb. Based on the EPA's Modeled Emission Rates for Precursors (MERPs) Guidance, the most conservative MERP value for NO_x that could result in the SIL of 1 ppb was 184 tpy. Therefore, it is concluded that the emissions from new unit will not interfere with attainment and maintenance of the NAAQS for ozone.

X. LIST OF ABBREVIATIONS

AAAQG	Arizona Ambient Air Quality Guideline
A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
hp	Horsepower
IC	Internal Combustion
lb	Pound
m	Meter
MERP	Modeled Emission Rates for Precursors
MMBtu	Million British Thermal Units
µg/m ³	Microgram per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NO _x	Nitrogen Oxide
NO ₂	Nitrogen Dioxide
O ₃	Ozone
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers
PSD	Prevention of Significant Deterioration
PTE	Potential-to-Emit
RACT	Reasonably Available Control Technology
SIL	Significant Impact Level
SO ₂	Sulfur Dioxide
EPA	Environmental Protection Agency
VOC	Volatile Organic Compound
yr	Year