TECHNICAL REVIEW AND EVALUATION FOR
OPERATING AIR QUALITY PERMIT #47511
El Paso Natural Gas – Castle Dome Compressor Station

I. INTRODUCTION

This Class II permit renewal is for Operating Permit No. 27930, which is for the operation of a natural gas compressor station located 12 miles south of Quartzsite, AZ and 2 miles east of the pipeline right of way in La Paz County by El Paso Natural Gas Company.

Company Information

Facility Name:	El Paso Natural Gas Co. - Castle Dome Compressor Station
Mailing Address:	El Paso Natural Gas Company P.O. Box 1087 Colorado Springs, CO 80901
Facility Address:	12 miles south of Quartzsite, AZ and 2 miles east of the pipeline right-of-way in La Paz County

II. FACILITY DESCRIPTION

The significant sources of regulated pollutants from the El Paso Natural Gas (EPNG) Castle Dome Compressor Station are the compressor turbine and generator.

El Paso Natural Gas Company provides natural gas transportation services for natural gas suppliers and end users throughout the southwest United States and owns and operates a large pipeline network. The Castle Dome Compressor Station provides natural gas compression to the pipeline network. Compression is needed to maintain enough pressure in the pipeline to keep the natural gas flowing and is accomplished by a Solar Saturn 20 gas turbine rated at 1609 horsepower. A Caterpillar 3306 generator rated at 200 horsepower provides power to the facility in the event that commercial power is unavailable.

III. 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 at 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.

The Department did not identify any learning sites within two miles of the facility.

IV. EMISSIONS

The emission estimates for the permit review process were calculated using AP-42 emission factors and the Solar Turbines Incorporated performance test run on August 16, 2004.

Table 1:Summary of Facility-wide Potential-to-Emit (PTE)

Pollutant	PTE (ton/year)
NO_x	46.16
SO_2	0.27
PM	0.63
PM_{10}	0.57
CO	63.64
VOC	3.32

V. COMPLIANCE HISTORY

There have been nineteen air quality inspections associated with this facility since August 2, 1996. No air quality cases and/or violations have been developed for this facility as a result of the inspections.

VI. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in its 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 VII of this technical review document.

Applicable Regulations

Unit ID	Year of Manufacture/ Modification	Control Equipment	Applicable Regulations	Verification
Natural Gas Turbine	March 2005	N/A	40 CFR 60 Subpart KKKK	The turbine went through a component exchange project in March of 2005. This project constitutes a modification under the NSPS provisions of 40 CFR 60.13 and 40 CFR 60, Subpart KKKK because the physical changes resulted in a increase in turbine capacity and were made after the Subpart KKKK trigger date of February 18, 2005.

Unit ID	Year of Manufacture/ Modification	Control Equipment	Applicable Regulations	Verification
Caterpillar Generator	1994	N/A	A.A.C.R18-2-719.A A.A.C.R18-2-719.B A.A.C.R18-2-719.C A.A.C. R18-2-719.E A.A.C. R18-2-719.I A.A.C. R18-2-719.J	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.

VII. PREVIOUS PERMITS AND CONDITIONS

A. Previous Permits

The following table lists the previous permits that have been issued to El Paso Natural Gas Corporation Castle Dome Compressor Station:

Previous Permits

Date Permit Issued	Permit #	Application Basis
11/06/2003	27930	Class II Operating Permit
3/18/2005	34565	Class II Minor Revision
9/15/2005	36983	Class II Minor Revision

B. Previous Permit Conditions

The following are discussions on the previous permits that have been issued to the source.

CLASS II, NON-TITLE V OPERATING PERMIT NO. 27930

This operating permit was issued to El Paso Natural Gas Company on November 6, 2003, to operate a Natural Gas Compressor Station.

Minor Permit Revision #34565 References	Determination				Comments
	Revised	Keep	Delete	Stream-line	
Attachment C	X				Equipment List was updated to reflect minor revision changes.

Minor Permit	Determination	Comments

	Revised	Keep	Delete	Stream-line	
Attachment C	X				Equipment List was updated to reflect minor revision changes.

Permit #27930 References	Determination				Comments
	Revised	Keep	Delete	Stream-line	
Attachment A	X				General provisions have been revised to represent the most recent language.
Attachment B.I	X				Facility Wide Limitations have been revised to include operating limitations and monitoring, recordkeeping, and reporting requirements.
Attachment B.II	X				Natural Gas Turbine has been included in a new section. 40 CFR 60 subpart KKKK conditions have been included as part of this section.
Attachment B.III		X			Generator requirements
Attachment B.IV		X			Fugitive Dust Requirements is now included as a separate section
Attachment B.V		X			Mobile Source Requirements
Attachment B.VI		X			Other Periodic Activities
Attachment C	X				Equipment List has been updated to reflect minor revision changes.

VIII. TESTING, RECORDKEEPING AND MONITORING REQUIREMENTS

A. Facility Wide Requirements

Sulfur Dioxide

The Permittee must demonstrate that the fuel combusted in the natural gas turbine does not have sulfur content in excess of 20 grains per 100 standard cubic feet by maintaining a copy of a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying the maximum sulfur content of the fuel combusted.

B. Natural Gas Turbine

Nitrogen Oxides

The Permittee must perform an annual performance test for NO_x. If the NO_x emission result from the performance test is less than or equal to 75 percent of the NO_x emission limit, the Permittee may reduce the frequency of subsequent performance tests to once every two years. If the results of any subsequent performance test exceed 75 percent of the above mentioned NO_x emission limit, the Permittee shall resume annual performance tests.

C. Generator

1. Particulate Matter

   a. A certified EPA Reference Method 9 observer must conduct a quarterly survey of visible emissions emanating from the stack of the generator when in operation. If the opacity of the emissions observed appears to exceed the standard, then the observer must conduct a certified EPA Reference Method 9 observation. The Permittee must keep records of the name of observer, date and time of observation, and results of the observation.

   b. The Permittee is required keep a copy of a current, valid purchase agreement, or tariff sheet or transportation contract that contains information regarding the lower heating value of the fuel. The Permittee is required to combust natural gas as fuel in the generator to demonstrate compliance with the permit.

IX. LIST OF ABBREVIATIONS

CO ..... Carbon Monoxide
NO_x ..... Nitrogen Oxides
PM ..... Particulate Matter
PTE ..... Potential-to-Emit
SO_2 ..... Sulfur Dioxide
VOC ..... Volatile Organic Compound
EPA ..... Environmental Protection Agency
N/A ..... Not Applicable
CFR ..... Code of Federal Regulations
NSPS ..... New Source Performance Standards
NESHAP ..... National Emission Standards for Hazardous Air Pollutants