



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 75181
EL PASO NATURAL GAS CO., L.L.C. – CASTLE DOME COMPRESSOR STATION**

I. INTRODUCTION

This Class II renewal Permit No. 75181 is issued to El Paso Natural Gas Company, L.L.C., the Permittee, for the continued operation of the Castle Dome Compressor Station located near Quartzsite in La Paz County, Arizona. This permit renews and supersedes Permit No. 59421.

A. Company Information

Facility Name: Castle Dome Compressor Station

Mailing Address: 5151 E. Broadway, Suite 1680, Tucson, AZ 85711

Facility Location: 12 miles south of Quartzsite, AZ and 2 miles east of the pipeline right-of-way in La Paz County, AZ 85334

B. Attainment Classification

The facility is located in an area designated as in attainment or unclassified for all criteria pollutants.

II. PROCESS DESCRIPTION

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 is one of such stations that provides natural gas compression to the pipeline network. Natural gas compression is needed to maintain enough pressure in the pipeline to keep the natural gas flowing. This is accomplished with the use of a natural gas-fired turbine that drives the compressor unit. The centrifugal compressor receives natural gas from a pipeline system. The facility is operated using purchased power. When purchased power is not available, an emergency generator provides backup electrical power to the facility. The facility is permitted to operate 24 hours a day and 365 days a year.

III. EMISSIONS

The facility's potential-to-emit (PTE) is provided in the table below. NO_x, CO and VOC Emissions from the natural gas turbine and emergency generator are based on manufacturer's data. Particulate matter and SO₂ emission for the gas turbine and the emergency generator are based on AP-42. Emissions for emergency generator are calculated for 500 hours of operation.

Table 1: Potential to Emit (PTE)

Pollutant	Emissions (tons per year)
PM	0.50
PM ₁₀	0.50
PM _{2.5}	0.50
NO _x	32.52
CO	37.88
SO ₂	0.26
VOC	0.27
Total HAPs	0.12

IV. MINOR NSR REVIEW

There is no change to the facility's current operations, and hence no change in emissions. As a result the facility is not subject to Minor New Source Review.

V. APPLICABLE REGULATIONS

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

Table 2

Unit & year	Control Device	Rule	Discussion
Natural Gas Turbine	N/A	40 CFR 60 Subpart KKKK	The turbine was updated in March 2005 from Solar Model T1302 to Solar Model Saturn 20. Thus, it is subject to New Source Performance Standards (NSPS) under 40 CFR 60 Subpart KKKK.
Caterpillar Generator	N/A	A.A.C. R18-2-719 40 CFR 63 Subpart ZZZZ	The generator is manufactured in 1994 and, thus, is not subject to NSPS Subpart JJJJ. It is therefore subject to Standards of Performance for Existing Stationary Rotating Machinery under A.A.C. R18-2-719. National Emission Standards for Hazardous Air Pollutants under 40 CFR 63 Subpart ZZZZ are applicable to existing stationary RICE located at an area source of HAP emissions.

Unit & year	Control Device	Rule	Discussion
Fugitive dust sources	Water Trucks Dust Suppressants	A.A.C. R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting, enclosures	A.A.C. R-18-2-726 and 702	These standards are applicable to any abrasive blasting operations.
Spray Painting	Enclosures	A.A.C. R-18-2-727 and 702	These standards are applicable to any spray painting operations
Demolition/renovation operations	None	A.A.C. R18-2-1101.A.8	These standards are applicable to any asbestos related demolition or renovation operations.

VI. PREVIOUS PERMIT AND CONDITIONS

- A. The facility was issued the current Permit No. 59421 on August 19, 2014.
- B. Previous Permit Conditions

Table 3 compares the substantive conditions in the Operating Permit No. 59421 with the conditions in this renewal permit.

Table 3

Section/Condition in Permit No. 59421	Determination			Comments
	Revised	Keep	Delete	
Attachment "A"	X			General Provisions – Revised to represent the most recent template language
Attachment "B"				
Condition I.A.1			X	The Requirement to have on site or on call a person certified in EPA Reference Method 9 is no longer required as opacity monitoring for gas-fired back up generator is no longer required, and the facility has no fugitive dust producing activities needing opacity monitoring.
Conditions I.A.2 and I.B		X		These general operation, recordkeeping and reporting requirements are retained.
Section II		X		The requirements for natural gas-fired turbine are retained.
Condition III.B.1		X		The requirement to combust pipeline quality natural gas in the generator is retained.

Section/Condition in Permit No. 59421	Determination			Comments
	Revised	Keep	Delete	
Condition III.B.2			X	These requirements for maintaining records of operating hours is deleted as the engine is governed by the operating hours limitations under NESHAP 40 CFR 63 Subpart ZZZZ (Section III.E of Permit 75181)
Condition III.C.1		X		Emission standards for particulate matter and opacity are retained.
Condition III.C.2.a			X	The quarterly opacity monitoring requirement for the backup emergency generator are not required as the generator is natural-gas fired.
Condition III.D		X		Recordkeeping and reporting requirements for SO ₂ are retained.
Condition III.E		X		The NESHAP requirements for the generator are updated in accordance with the latest version, and are retained.
Section IV	X			The requirements for fugitive dust sources are retained except that the opacity monitoring requirements under Condition IV.B.2.b are deleted as the facility has no dust producing activity, and the roads at the facility are covered with gravel to minimize dust generation.
Section V			X	The requirements for mobile sources are deleted as ADEQ has no authority to regulate mobile sources.
Section VI		X		The requirements for abrasive blasting, painting and demolition/renovation activities are retained.

VII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

A. Facility Wide

1. Along with the annual compliance certification, the Permittee is required to submit reports of all monitoring 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. Natural Gas Turbine

1. The Permittee is required to submit a written report of the results of each performance test before the close of business on the 60th day following the completion of the performance test.

2. The Permittee is required to maintain records of the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract specifying that the total sulfur content for natural gas used is 20 grains of sulfur or less per 100 standard cubic feet.

C. Emergency Generator

1. The Permittee is required to maintain records of hours of operation for the emergency generator. These must include the hours spent for emergency operation, what classified the operation as emergency, and the hours spent for non-emergency operations.
2. The Permittee is required to
 - a. change the oil and filter every 500 hours operation or annually, whichever comes first; The Permittee has the option of utilizing an oil analysis program to extend the specified oil change requirements.
 - b. inspect spark plugs every 1,000 hours of operation, or annually, whichever comes first; and
 - c. inspect all hoses and belts every 500 hours of operation or annually.
3. The Permittee is required to keep records of the maintenance conducted on the emergency generator.

D. Fugitive Dust

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

E. 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

The Permittee is required to perform an annual performance test on the turbine for NOx. If the NOx emission result from the performance test is less than or equal to 75 percent of the NOx emission limit specified in permit, the Permittee may reduce the frequency of subsequent performance tests to once every two years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NOx emission limit, the Permittee must revert back to annual performance tests.

IX. COMPLIANCE HISTORY

Since the issuance of Permit No. 59421, there were 10 facility inspections including 7 report reviews. The facility was found to be in compliance with the applicable permit conditions. No air quality cases or violations were issued during the permit term

X. LIST OF ABBREVIATIONS

A.A.C.....	Arizona Administrative Code
ADEQ.....	Arizona Department of Environmental Quality
Btu/ft ³	British Thermal Units per Cubic Foot
Btu/hr.....	British Thermal Units per Hour
CFR.....	Code of Federal Regulations
CO.....	Carbon Monoxide
EPNG.....	El Paso Natural Gas Company
FERC.....	Federal Energy Regulatory Commissions
HAP.....	Hazardous Air Pollutant
NESHAP.....	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS.....	New Source Performance Standards
PM.....	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers
PM _{2.5}	Particulate Matter Nominally less than 2.5 Micrometers
PTE.....	Potential to Emit
SO _x	Sulfur Oxides
VOC.....	Volatile Organic Compound