

Technical Support Document
Title V Permit
El Paso Natural Gas Company
 Casa Grande Compressor Station; Permit # V20643.000

1. Disclaimer

The provisions of this technical support merely provide background information with respect to the underlying permit. The provisions of this document are not intended to enlarge, limit or modify the provisions of the permit.

2. Agency Authority

Under ARS §49-479 *et seq.*, Pinal County has adopted a "unitary" permit program that regulates both the construction and operation of stationary sources of air pollution. The Pinal County Air Quality Control District ("PCAQCD") constitutes the administrative branch of County government that administers the program.

Under Clean Air Act ("CAA") §110 and 40 CFR §51.166, the EPA has approved the pre-construction review aspects of Pinal County's attainment-area permitting program, such that PCAQCD has the primary authority to issue, administer and enforce pre-construction permits as required under the Prevention of Significant Deterioration (PSD) provisions of the CAA.

Under CAA §501 *et seq.* and 40 CFR Part 70, the EPA has granted interim approval for the "operating permit," aspects of PCAQCD's unitary permitting program that affect major sources, such that Pinal County has the primary authority to issue, administer and enforce permits required under the Title V provisions of the CAA.

3. Applicant

El Paso Natural Gas Company
 5151 E. Broadway, Suite 1680
 Tucson, AZ 85711

4. Attainment Classification

This facility is located in an area currently in attainment for all pollutants.

5. Permitting History

The following is a list of permits issued to this facility since the original Title V:

Permit/ Revision	Type	Issuance	Reason for Permitting
V20607.000	New	12/15/00	Initial Title V
V20607.R01	Significant Revision	7/8/03	Adding 2 simple cycle turbines and auxiliary generator
V20607.R02	Minor Revision	12/22/04	Revising capacity of auxiliary generator
V20624.000	Renewal	9/27/05	Title V renewal

6. Compliance/Enforcement History

The last inspection of this facility was conducted in August of 2009. The facility was in compliance. The last performance test for NOx emissions from the 3 GE units was conducted in 2009 and results indicate that NOx emissions are at approximately 25% of the limitation of 500 ppm (§5-24-1030.A.3). The Solar Centaur units were due to be tested at the end of 2009. The applicant has submitted a deviation report and testing is scheduled for July 2010.

This facility does not have any history of compliance problems or enforcement.

7. Project Description

This is a permit renewal for the Title V permit at the Casa Grande Compressor Station. No facility changes are being processed during this renewal, but there are some changes to the permit. This technical support document only summarizes any changes made to the permit through this renewal. For more in-depth discussion on this permit see the TSDs for previous revisions of this permit.

The Casa Grande compressor station was built in the 1950's. That antedates any construction-permit requirements under either the Clean Air Act, Arizona statutes, or local rules. The source includes three natural gas fired GE turbines each rated at 6050 horsepower (at site elevation and 80°F), 2 natural gas fired Centaur simple cycle combustion turbines rated at 6245 hp (at 0°F) and an auxiliary generator.

8. Permit Changes

- Turbine Model Number

El Paso Natural Gas has requested that we update the permit to reflect the correct nomenclature for the Centaur turbine. There have been no changes to the actual turbine, but historically the model number has been labeled incorrectly in the air quality permit.

- Opacity

During the 5 years of the previous permit term, PCAQCD has adopted a new opacity standard of 20%. This standard has not been adopted into the State Implementation Plan as of the date of this document and is therefore "locally enforceable" only. The standard applies to emission units which don't currently have another opacity requirement from an existing performance standard, therefore it applies to the GE turbines and the auxiliary generator.

- Reasonable Precautions

The reasonable precaution rule was recently approved into the State Implementation Plan. This rule is applicable to any dust-generating activities conducted on site and it merely states that reasonable precautions must be taken before generating airborne dust.

- Plant-Wide Requirements

Historically, the Casa Grande Compression station permit included certain activities as "Insignificant Activities", including abrasive blasting, architectural coatings and other spray painting. Since these activities are subject to applicable requirements, they are not true Insignificant Activities. The applicable requirements which apply to these activities have been included in the permit as "Facility-Wide" activities.

This measure also allows El Paso Natural Gas some flexibility in conducting abrasive blasting. In the past, such activity has created confusion as to whether separate notifications had to be submitted. Now, since the applicable requirements are in the permit, El Paso can conduct these activities as needed (for maintenance only) as long as emissions are tracked and submitted on an annual basis.

- Testing Schedule

The testing language for the Centaur units has been revised in an attempt to make it more clear. The previous scheduling steps created too much confusion for both the applicant and PCAQCD on when additional testing was required. The previous language required testing to be conducted on an annual basis if any of the test results show NOx emissions to be above 25% of the NSPS limit of 182 ppmv. Since the facility has a NOx cap of 15.75 ppmv, which is approximately 8.6% of the NSPS limit, their emissions will never approach 25% of the NSPS limit without being out of compliance. The permittee was due for testing these units in November of 2009, but due to confusion with the previous testing language, the tests will be conducted in July 2010.

9. Emissions

9.1 Actual Emissions (2009) in Tons per Year

NOx	CO	VOC	SO2	PM10	PM2.5	HAPs
116.30	11.70	0.60	0.90	1.80	1.00	0.90

9.2 Allowable Emissions (tons per year)

Emissions Unit	NOx	CO	VOC	SO2	PM10	PM2.5	Formald ehyde	HAPs
3 GE Units	435.93	106.95	4.86	0.39	11.43	11.43	6.81	10.56
2 Centaur Units	27.8	33	1.92	0.16	4.54	4.54	1.76	1.84
Waukesha Generator	3.9	2.4	0.49	0.043	0.028	0.028	0.06	0.85
TOTAL	467.63	142.35	7.27	0.59	16.00	16.00	8.63	13.25

9.3 Emission Factors

Maximum allowable emissions calculations are included in the renewal permit application. For the GE units (650 hp each), the following emission factors were used:

NOx = Average of the most recent test result + 10%
 CO = Highest of similar units +10%
 VOC = AP-42 factor * 2.0
 SO2 = Mass Balance
 PM10 and PM2.5 = AP-42 factor *1.5
 Formaldehyde and Haps = Alpha Gamma Technologies (Table 4 in the permit application)

For the Solar Centaur units (6245 hp each), the following emission factors were used:

NOx = Current permit estimates
 CO = Current permit estimates
 VOC = AP-42 factor * 2.0
 SO2 = Mass Balance
 PM10 and PM2.5 = AP-42 factor *1.5
 Formaldehyde and Haps = Alpha Gamma Technologies (Table 16 in the permit application)

9.3 SO2 Calculations:

Assuming that 100% of the sulfur in the natural gas fuel is converted to SO2, the SO2 emissions were calculated by the following equation:

Tons of SO2/year = (S content of fuel in grains/100 scf) * Natural gas usage in 100 scf/hr divided by 7000 grains/lb * 8760 hrs/yr * 1 ton/2000 pounds.

GE Units: 0.25 grain * 861.6 (100 scf/hr) divided by 7000 gr/lb * 8760 hr/yr * 1ton/2000 lbs = 0.13 tpy SO2

Solar Units: 0.25 grain * 514.1 (100 scf/hr) divided by 7000 gr/lb *8760 hr/yr * 1ton/2000 lbs = 0.08 tpy SO2

10. Ambient Impact Assessment

No Ambient Impact Assessment has been conducted for this renewal since there have been no changes to the facility.

11. List of Common Abbreviations

AP-42	.....
“Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources”, 5 th Edition	.....
CAA	..... Clean Air Act
CAM	..... Compliance Assurance Monitoring
CFR	..... Code of Federal Regulations
CO	..... Carbon Monoxide
hr	..... Hour
kW	..... kilowatts
lb	..... Pound
MACT	..... Maximum Achievable Control Technology
MMBTU	..... Million British Thermal Units
Mod.	..... Modification
MSDS	..... Material Safety Data Sheet
NOX	..... Nitrogen Oxides
NSPS	..... New Source Performance Standard
NSR	..... New Source Review
PCAQCD	..... Pinal County Air Quality Control District
PGCAQCD	..... Pinal-Gila Counties Air Quality Control District
PM10	..... Particulate Matter nominally less than 10 Micrometers
PSD	..... Prevention of Significant Deterioration
SIC	..... Standard Industrial Code
SIP	..... State Implementation Plan
SOX	..... Sulfur Dioxide
tpy	..... tons per year
TSD	..... Technical Support Document
VOC	..... Volatile Organic Compound
yr	..... year