Technical Support Document
Title V Permit
El Paso Natural Gas Company
Casa Grande Compressor Station; Permit # V20624.000

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. 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,** only administrative changes. For more in-depth discussion on this permit see the TSD located in *I:\WP\PERMITS\ENGREV\V20607R1.wpd/*

The applicant has certified that it is currently in compliance.

4. Permitting History

The Casa Grande compressor station was built in the 1950's. It preceded any construction-permit requirements under either the Clean Air Act, Arizona statutes, or local rules.

The existing source includes three natural gas fired GE turbines each rated at 6050 horsepower (at site elevation and 80° Fahrenheit), 2 natural gas fired Centaur simple cycle combustion turbines rated at 6245 hp (at 0° F) and an auxiliary generator.

- Permit V20607.000 was issued on 12/15/00 for the 3 existing GE turbines. These turbines preceded any installation permit or PSD requirement, and previously, only installation permits had been issued. This compressor station was also built prior to the New Source Performance Standards (NSPS) Subpart GG effective date. The three GE turbines remain “grandfathered” with respect to Subpart GG NSPS requirements.

  Under this permit, a turbine may be replaced on a “like-kind exchange” basis by an identical or substantially similar unit. Permittee will provide the notifications required to preserve such “grandfathered” NSPS status for the GE turbines. This status will not exempt the facility from any Prevention of Significant Deterioration (PSD) applicability determinations.

- Revision “R01" was issued on 7/18/03. Through this revision (a major modification), the permittee installed two Centaur Solar simple cycle combustion turbines, each coupled to a compressor. The revision also authorized the installation and operation of an auxiliary generator. The installation of the Solar turbines (52.44 mmBtu/hr heat input each) triggered Subpart A and GG of the NSPS. Both turbines and generator are fueled with pipeline quality natural gas.

  This revision allowed the turbines to operate without limitation, and the generator was limited to 1500 hours per year. At the time, available information indicated that the maximum potential NOx emissions from the

existing GE turbines could exceed the 250 tpy threshold that would trigger PSD review[1]. To ensure that the actual operation of the Solar turbines would not result in emissions that exceeded the 40 tpy PSD significance threshold, the permit imposed periodic performance testing requirements. The frequency of the testing was linked to a "margin of safety" relative to the significance threshold. Such testing was not imposed for CO since emissions reached only a small percentage of the significance threshold (100 tpy). Potential emission increases from this modification were as follows:

	NOx	CO[2]	PM10	SOx	VOC
Solar Turbine #1	13.9	16.1	2.5	0.9	0.8
Solar Turbine #2	13.9	16.1	2.5	0.9	0.8
Generator[3]	3.9	2.4	0.09	0.04	0.49
TOTAL	31.7	33.2	5.09	1.84	2.09

- Revision "R02" was issued on 12/14/04 and it changed the horsepower rating of the auxiliary generator from 500 to 520 hp. Even though the rating goes up, manufacturer data lists a NOx emission rate lower than previously estimated so the estimated emissions for the generator are actually lower.

5. Permit Changes: Clarifications; NSPS;

A. Insignificant Activities

The Insignificant Activities List of Appendix B has been expanded to include diesel and fuel oil storage tanks with capacity of 40,000 gallons or less per §1-3-130.74a.b. Lubricating oil tanks with a vapor pressure of less than 1.5 psia and with a capacity of 40,000 gallons or less are present at the facility. These tanks are are Insignificant Activities and exempted from the requirements of §5-18-742.

B. NSPS Subpart GG: Sulfur and nitrogen monitoring

In accordance with the most recent revision to 40 CFR 60 subpart GG, turbines which burn natural gas that meets the definition in the NSPS are not required to conduct sulfur and nitrogen monitoring. The rule does require that the facility demonstrate that they meet the natural gas definition. The permit has been revised to accommodate for the changes in the NSPS.

[1] The Technical Support Document for V20607.000 projectd an annual NOx PTE of 303 tpy.

[2] V20607.R02 application indicated each turbine's PTE for CO was 14.1. This has been revised due to recent testing results.

[3] Based on 1500 hours of operation.