Title V Air Operation Permit Renewal
Permit No. 0970001-011-AV

APPLICANT

The applicant for this project is Kissimmee Utility Authority. The applicant's responsible official and mailing address are:

Mr. Larry Mattern, Vice President of Power Supply
Kissimmee Utility Authority, Roy B. Hansel Power Facility
P.O. Box 423219
Kissimmee, Florida 34742-3219

FACILITY DESCRIPTION

The applicant operates the Roy B. Hansel Power Facility, which is located at 102 Lakeshore Boulevard in Kissimmee, Florida.

The facility includes one 30.9 MW combined cycle combustion turbine with an unfired heat recovery steam generator and two 9.5 MW steam turbines which utilize steam produced by recovering waste heat from the combustion turbine exhaust gases. Emissions of nitrogen oxides (NO_X) are controlled by using low nitrogen content fuels and water injection.

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Renewed Title V Air Operation Permit issued **May 04, 2007**
Air Construction Permit issued **May 28, 2008**
Title V Air Operation Permit Revision issued **August 11, 2008**
Title V Air Operation Permit Revision issued **March 04, 2009**
Application for a Title V Air Operation Permit Revision Renewal received **May 18, 2011**
Additional Information Request dated **June 07, 2011**
Additional Information Response received and Application Complete **August 24, 2011**
Notice of Intent to Issue Air Permit issued **October 11, 2011**
Public Notice Published **October 20, 2011**

PRIMARY REGULATORY REQUIREMENTS

Title III: The facility is not identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility does operate units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility does not operate units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAIR: The facility is subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility. CAM is not required for the water injection system because compliance is determined by calculating NO_X emissions based on the correlation curve developed as described in 40 CFR 75 Appendix E.

PROJECT REVIEW

The following specific conditions were changed as part of this renewal:

1) **Facility no longer uses fuel oil, only natural gas, Specific Condition Nos. A.18. and A. 26. were changed as follows:**

FROM

~~A18. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60, Subpart GG shall monitor sulfur content and nitrogen content of the fuel being fired in the turbine. The frequency of determination of these values shall be as follows:~~
~~(a) If the turbine is supplied its fuel from a bulk storage tank, the values shall be determined on each occasion that fuel is transferred to the storage tank from any other source.~~
~~(b) If the turbine is supplied its fuel without intermediate bulk storage the values shall be determined and recorded daily. Owners, operators or fuel vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel supply. These custom schedules shall be substantiated with data and must be approved by the Administrator before they can be used to comply with 40 CFR 60.334(b). [40 CFR 60.334(b)(1) and (2)]~~

~~**A26.** To meet the requirements of 40 CFR 60.334(b), the owner or operator shall use the methods specified in 40 CFR 60.335(a) and 40 CFR 60.335(d) to determine the nitrogen and sulfur contents of the fuel being burned. The analysis may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.~~
~~[40 CFR 60.335(e)]~~

TO

A.15. Natural Gas Sulfur Content Records Required. The owner or operator shall receive and maintain records of sulfur content of natural gas provided by the natural gas supplier, as per 40 CFR 60.334. The records shall report total sulfur content in terms of grains of sulfur per hundred cubic feet (standard conditions). [40 CFR 60.334 and Title V Operation Permit Renewal Application received 05/18/11]

A.16. Natural Gas Sulfur and Nitrogen Content Monitoring. The owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60.334(h):

a. Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in paragraph (h)(3) of this section. The sulfur content of the fuel must be determined using total sulfur methods described in §60.335(b)(10). Alternatively, if the total sulfur content of the

gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084–82, 94, D5504–01, D6228–98, or Gas Processors Association Standard 2377–86 (all of which are incorporated by reference-see §60.17), which measure the major sulfur compounds may be used; and

b. Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (*i.e.* , if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in §60.332). The nitrogen content of the fuel shall be determined using methods described in §60.335(b)(9) or an approved alternative.

c. Notwithstanding the provisions of paragraph (h)(1) of this section, the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in §60.331(u), regardless of whether an existing custom schedule approved by the administrator for subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:

   (1) The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or

   (2) Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of this chapter is required.

d. For any turbine that commenced construction, reconstruction or modification after October 3, 1977, but before July 8, 2004, and for which a custom fuel monitoring schedule has previously been approved, the owner or operator may, without submitting a special petition to the Administrator, continue monitoring on this schedule.

[40 CFR 60.334(h)]

2) Federal Regulation 40 CFR 60, Subpart GG underwent an update, Specific Condition A.24. was changed and replaced in permit as follows:

A24. Nitrogen Oxides and Sulfur Dioxide. The owner or operator shall determine compliance with the NO_X and SO_2 standards in 40 CFR 60.332 as follows: U.S. EPA. Method 20 (40 CFR 60, Appendix A) shall be used to determine the NO_X, SO_2, and O_2 concentrations. ~~The span values shall be 300 ppm of NO_X and 21 percent O_2. The NO_X emissions shall be determined at each of the load conditions specified in 40 CFR 60.335(c)(2). The sampling site shall be located between the turbine and the boiler.~~
[~~40 CFR 60.335(c)(3) and~~ construction permit AC49-74856]

{Note: This test method condition was added to the Test Methods table under Specific Condition A.18. and therefore, this condition is no longer A.24. in the operation permit.}

3) Addition of Clean Air Interstate Rule (CAIR) Part as Specific Condition A.36. in body of permit and as attached Appendix CAIR.

{Note: Listed previously as Condition No. 1 in Air Permit No. 0970001-010-AV. Air Permit No. 0970001-010-AV revised the Title V permit to include the CAIR Part form as a new section added to the existing Title V air operation permit. The condition was listed on page 15 (added to the permit) and the form on pages 16-20 (added to the permit).}

CONCLUSION

This project renews Title V air operation permit No. 0970001-007-AV, which was issued on May 04, 2007. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C.