

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION IV  
 AIR, PESTICIDES & TOXICS MANAGEMENT DIVISION  
 345 Courtland Street, N. E.  
 Atlanta, Georgia 30365  
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DATE: 6-7-91 NUMBER OF PAGES (Including this sheet) 3  
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TO: MR. CLAIR H. FANCY, CHIEF PHONE: \_\_\_\_\_

ADDRESS: F.D.E.R. FAX NUMBER: 8-904-488-6579

FROM: GREGG WURLEY PHONE: 347-5014

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cc: CHF  
 Preston Lewis }  
 Barry Andrews } - 6-10-91 RR  
 Cleve Holladay }

RECEIVED

JUN 10 1991

Division of Air Resources Management



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## REGION IV

345 COURTLAND STREET, N.E.  
ATLANTA, GEORGIA 30365

JUN 7 1991

4APT-AEB

Mr. Clair H. Fancy, P.E., Chief  
Bureau of Air Regulation  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

RE: Fort Pierce Utilities Authority, H.D. King Station (PSD-FL-159) 1543

Dear Mr. Fancy:

This is to acknowledge receipt of your preliminary determination and draft permit for the proposed modification to the above referenced facility, transmitted by your letter dated April 15, 1991. As discussed between Mr. Barry Andrews of your staff and Mr. Gregg Worley of my staff, we have reviewed the package as requested and have the following comments.

Background: The H.D. King Generating Facility of the Fort Pierce Utilities Authority applied for a PSD permit for their previously constructed unit No. 9 (a combined cycle turbine). This unit had previously escaped PSD review in 1987 when the facility accepted federally enforceable limits on three of their existing units to allow Unit 9 to "net out" of PSD review. These limits were in the form of hours of operation limits on the existing units. Since that time, however, the Authority's need for power has increased. The Authority wishes to remove the hours of operation limit on the three existing units; however, this would entail Unit 9 going through PSD review. Consequently, the Authority applied for a PSD permit for Unit 9.

Regulatory Requirements: The language in the PSD regulations is clear concerning these situations. The specific reference is found at 40 CFR §52.21(r)(4) as follows:

At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on the hours of operation, then the requirements of paragraphs (j) through (s) of this section shall apply to the source or modification as though construction had not yet commenced on the source or modification.

It is clear that the PSD review for Unit 9 must be conducted as if the unit had not been constructed; therefore, items such as retrofit costs can not be considered in making a BACT determination.

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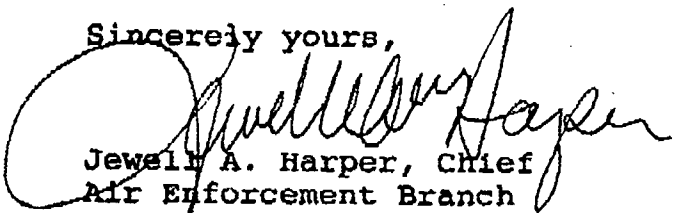
BACT Determination

Unit 9 is a combined cycle natural gas-fired turbine nominally rated at 31.6 MW. The equipment consists of a GE Frame 5 turbine along with its associated heat recovery steam generator (HRSG). The BACT determination for NO<sub>x</sub> which was requested by the applicant was the utilization of water injection to a level of 42 ppm @ 15% O<sub>2</sub>. The applicant did not evaluate the use of lo-NO<sub>x</sub> combustors since their unit was already constructed. The applicant's primary reason for dismissing more stringent levels of control than what they proposed (e.g., SCR to a level of 9 ppm) was economics.

FDER, in their analysis, correctly determined that the inclusion of HRSG modification costs and higher erection costs due to retrofiting did not comply with the language or the intent of the PSD regulations. Upon further investigation of the economic analysis submitted by the applicant, and after comparison with similarly sized combined cycle projects, FDER concluded that the installation of SCR at an annual cost of approximately \$3,835 per ton of NO<sub>x</sub> removed was economically reasonable. Furthermore, the use of SCR on gas fired turbines has been established as being technically feasible; therefore, in the Preliminary Determination for this PSD permit, FDER concluded that the utilization of SCR to achieve a NO<sub>x</sub> emission rate of 9 ppm @ 15% O<sub>2</sub> would be BACT for NO<sub>x</sub>.

We concur with your determination concerning BACT for this facility. In addition, we feel that you made the legally correct decision in not allowing retrofit costs to be considered in the BACT analysis. If you have any questions on these comments, please contact Mr. Gregg Worley of my staff at (404) 347-5014.

Sincerely yours,



Jewell A. Harper, Chief  
Air Enforcement Branch  
Air, Pesticides, and Toxics  
Management Division