



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

November 21, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Harry Schindehette, P.E.
Director of Utilities
City of Ft. Pierce
P. O. Box 3191
Ft. Pierce, FL 34948

RE: AC 56-185836 - Ft. Pierce Utilities Authority - H. D. King
Unit 9

Dear Mr. Schindehette:

We have reviewed your response to our letter of September 28 concerning the above referenced permit application and find it to be incomplete. You will need to show all calculations, state and justify all assumptions, identify the sources of any emission factors, and provide copies of references where the emission factors or other information were obtained from sources other than AP-42. In responding to those questions that request information concerning air pollutant emissions, please provide the emissions for each fuel that the affected sources are authorized to burn. Processing of your application will resume upon receipt of the following information:

- Please fully explain how the stack parameters listed in Attachment 3 relate to the actual stack parameters for FPUA Unit 9 and provide numerical comparisons.
- Please explain how the emission rates for nitrogen oxides, carbon monoxide, non-methane hydrocarbons, and particulate were determined for FPUA Unit 9 by General Electric. Provide supporting documentation.
- Explain and show how the actual emissions of each pollutant listed in Table 500-2 of F.A.C. Rule 17-2.500 were calculated in units of the applicable emission limiting standard, lbs./hr., and tons/year for each source at the H. D. King facility



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- Describe the situations that make it necessary to burn oil in each of the units located at the H. D. King facility. List the actual number hours per year (during each of the last two years) that oil was burned in each air pollution source at the H. D. King facility including each diesel.
- Provide the maximum emissions of each pollutant listed in Table 500-2 of F.A.C. Rule 17-2.500 in units of the applicable emission limiting standard, lbs./hr., and tons/year for each source at the H. D. King facility when oil is burned.
- Provide the stack parameters for each source at the H. D. King facility when oil is burned. The parameters are to include stack height, stack exit diameter, stack exit volume (ACFM and DSCFM), stack velocity, stack exit temperature, stack moisture (% by volume), and stack oxygen (% by volume).
- Please model the ambient concentrations and increment consumption for the criteria pollutants sulfur dioxide, particulate, and nitrogen oxides from all sources (including the bypass stack) and for all averaging times when oil is burned. Incidentally, based on the available information, it appears that FPUA Unit 8 is an increment consuming source. Also, please update the soils and vegetation analysis to account for the effects of oil burning.
- Please explain what the situation in the Middle East has to do with the escalation rates. Explain the basis for the capital cost escalation rate of 6%, the operating cost escalation rate of 7%, the indirect cost factor of 16%, and the present worth discount rate of 8%. Provide data to support the selection of these rates as representative of the real world.
- Explain why the installation of SCR on the combined cycle unit will require additional personnel equivalent to one operator for one-half shift per day. Please explain the term loaded payroll cost as it is used in conjunction with the additional personnel cost.
- Explain the difference between a catalyst that is suitable only for units that burn gas and a catalyst for units that burn both gas and oil. Please explain the difference both in technical and economic terms.
- Please explain why the emission reductions for using SCR to control NOx are not consistent in Table 4-1 for the original application and the additional information response (218 vs. 202 tons per year).

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- Please show the calculations to document the NOx emission reduction achieved by SCR shown in Table 4-1.

If you have any questions or wish to meet with us, please write to me at the address above or call Barry Andrews at (904) 488-1344.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

cc: S. Day, P.E.
J. Miller
H. Lamb
I. Goldman