



Farzie Shelton, chE; REM

Manager of Environmental Affairs

August 4, 2004

Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

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BUREAU OF AIR REGULATION

Attention: Ms. Trina L. Vielhauer, Chief

**RE: Revised Construction Permit and Title V Operation Permit
DEP File Nos. 1050352-004-AC and 1050352-002-AV
City Of Lakeland; Winston Peaking Project**

Dear Trina:

This correspondence provides Lakeland Electric's comments on the above referenced draft permits. In this draft permit, several conditions have been included that have changed the original conditions, as well as the basis for, the original air construction permit. Our comments are presented below.

The basis for the original air construction permit to limit the potential emissions to less than 250 tons/year of any regulated air pollutant was the hours of operation. The number of hours in each operating mode was used since the emission guarantees provided by the engine supplier were based on a lb/hr basis for each operating mode. The hours of operation would be a more direct means of assuring that the total emissions would not exceed the PSD threshold. The hours would be based on total engine hours. The potential heat input was included in the air construction permit as only a secondary method to assure compliance. However, using heat input inherently has "round-off" associated that may confound the calculations based on what is assumptions are made for heat content, density of fuel and the use of higher or lower heating value of fuel (i.e., HHV or LHV). These factors were discussed with the Department in a response to the Department's request for additional information. The Department previously accepted this approach for the project. The changes to certain permit condition did not recognize this history. The specific comments follow:

Condition 12: The distillate fuel oil use was changed from 8,184,480 gallons per year that was in the original air construction permit to 7,789,855 gallons per year. The reason for this was the Department's assumption that the heat content was 138,000 Btu/gallon. The heat content

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and density can vary. The original air construction permit accepted by the Department had a heat input of 25.22 MMBtu/hr and a fuel heat content of 132,500 Btu/gallon. This results in the 8,184,480 gallons (25.22 MMBtu/hr x 43,000 engine hours 1 gallon/132,500 Btu = 8,184,480). This condition should be changed to reflect the original permit limit of 8,184,480 gallons/year. In addition, the parenthetical reference to 25 MMBtu/hr and 138,000 Btu/gallon should be deleted.


In addition, the parenthetical reference to 26.35 MMBtu/hr and 1,050 Btu/cf should also be deleted. The 26.35 MMBtu/hr is not a correct representation of the heat input when firing natural gas. Please see comment to Condition 13 below.

Condition 13: The heat input for natural gas of 26.35 MMBtu was back calculated based on the annual limit for natural gas. This heat input value was substituted for the 29 MMBtu/hr authorized in the original air construction permit. When firing natural gas, a small amount of diesel fuel is required for ignition of the natural gas. Natural gas alone cannot be used in these engines unless this small amount of diesel is used. The amount of diesel is about 6 percent of the total heat input on a LHV basis. This information was provided in the original air construction permit application. When firing natural gas the heat input for natural gas is 27.28 MMBtu/hr while the heat input for diesel fuel is 1.66 MMBtu/hr for a total heat input of 28.94 MMBtu/hr (HHV). Thus the heat input of 29 MMBtu/hr was authorized by the Department.

Condition 32: While this condition was not included in the original air construction, the condition is acceptable to Lakeland Electric with one minor change. The emission rate for natural gas firing should be 5.58 lb/hr as reflected in the modified Condition 6. This condition also reflects more accurately the basis for the original air construction permit than limits on fuel use.

If there are any questions on the comments provided please contact me at (863) 834-6603 or our environmental consultant Kennard Kosky of Golder Associates at (352) 336-5660. Lakeland Electric appreciates this opportunity to provide these comments.

Sincerely,


Farzie Shelton

cc: Kennard F. Kosky, P.E.

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