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BUREAU OF AIR REGULATION

Mr. Al Linero
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Mail Station 5510
Tallahassee, Florida 32399-2400

Re: Proposed Burner Replacement
Indian River Plant
Permit No. 0090196-001-AV

Dear Mr. Linero:

As you are aware, Reliant Energy, Inc. (Reliant) owns and operates the Indian River Plant (Indian River) in Titusville. Reliant owns and operates electric power generating facilities in 12 states in the United States. These electric generating facilities are of many vintages, each with their own unique set of operating strengths and challenges. As such, Reliant is constantly examining ways to improve the operability of our facilities.

Reliant has conducted a series of studies at Indian River to explore methods of improving the combustion of fuel oil while maintaining or even decreasing air emissions. Some of these methods have already been successfully implemented, such as fuel additives and boiler injection.

A study was recently conducted to examine the performance of the fuel oil injection system, specifically the oil atomizers and burner flame stabilizers. The results of the study indicate that as the hours of service of the atomizers increase, their performance decreases in three areas: spray quality; spray angle; and uniform flow capacity. Degradation in spray quality can lead to larger droplet sizes that can cause carbon burnout. An increase in spray angle can lead to flame impingement on the furnace walls, resulting in smoke, unburned carbon, and damage to water wall tubes. Fluctuation in fuel flow capacity would disrupt the air to fuel ratio at each of the burners and may lead to smoky burners, increased opacity, and unburned carbon.

During the course of the study of the atomizers, it was also determined the flame stabilizers on each of the burners are of an aged design. Installation of a better-designed flame stabilizer will promote better air-to-fuel mixing and thus improve combustion.

To address these issues, Reliant is proposing to make the following equipment replacements to Units 1, 2, and 3 at Indian River:

1. Install new mechanical atomizer assemblies. Each atomizer assembly consists of a spray plate, a back plate, and a retaining nut.
2. Change the material of the spray plate and back plate to a material with better wear characteristics and less prone to cracking.

3. The backside of each spray plate is called the whirl plate where a series of triangular-shaped channels promote the "whirling" of the fuel as it exits the atomizer. The whirl plate will be redesigned to improve atomizer performance.
4. Replace the existing conical diffuser flame stabilizers with a compound-curve-vane swirler flame stabilizer. The new swirlers will be outfitted with an extender assembly to increase the amount of airflow affected by the swirler.

Reliant believes these changes will improve combustion at the burner level while maintaining or even decreasing air emissions from each of the units. Replacement of the specified fuel oil combustion system components will not affect Indian River's capability to burn residual oil.

With respect to air permit applicability, the proposed equipment replacement does not constitute a modification requiring Prevention of Significant Deterioration (PSD) review since they will not result in a change in method of operation of the units nor in a net emissions increase. For the same reason, the proposed changes are also not subject to preconstruction review under Florida Administrative Code Chapter 62-212 or Title V review based on the criteria in Chapter 62-213.400.

Reliant believes that these changes will improve combustion in each of the generating units. Reliant will continue to seek new and innovative ways to improve the combustion process and make the Indian River Plant a conscientious partner in the surrounding community.

Should you have any questions, please contact Mr. Joe Araiza at 713.488.7167.

Sincerely,



J. Derek Furstenwerth
Manager, Air Resources Division
Environmental Department