EXHIBIT A

DESCRIPTION OF FLORIDA POWER CORPORATION GAS TURBINE GENERATING UNITS TO BE LOCATED AT THE COMPANY SUWANNEE RIVER POWER PLANT SITE

Four (4) 63,000 KW gas turbine electric generating units are intended to be constructed for Florida Power Corporation. The units are planned for installation at the Florida Power Corporation Suwannee River Power Plant site. The units are scheduled for commercial operation in October 1980, and will be known as Suwannee River Peaking Units 1 through 4.

The gas turbine electric generating units are individually housed and are completely automated facilities. The units will be operated by remote control and no water is utilized for cooling purposes.

The plants are to be used for peaking purposes (intermittent operation) and will normally be run in the daytime and early evening during periods of peak electrical load. These units will be run at night only during emergencies.

At the peak power level of 63,000 KW, occurring at an ambient air temperature of 59°F, each unit will burn approximately 632 pounds of liquid fuel per minute. The exhaust gas flow at this rating will be 1,255,500 ACFM at an approximate temperature of 726°F. Clean burning fuel which will have a maximum sulfur content of 0.5% will be used. The output of the gas turbines will vary with the ambient air temperature and the maximum plant electrical output will vary accordingly.

Since the gas turbines utilize low sulfur fuel oil, causing an essentially clear exhaust discharge, the process is considered to be an extremely low pollution source. The smoke density is less than a Ringleman #1 during all modes of operation and the visible emissions shall be less than 20% opacity.

WET METHOD

The present day available (state of the art) control device for reducing NO_X emissions formed in combustion turbines is injection of water with the fuel in the gas turbine burner chambers. Various types of burners are used by the major manufacturers and therefore the quantity of water injected will vary according to the particular manufacturer. In general the amount of water injection required to meet the allowable emission level (75 PPM NO_X by volume) will run from 50% to 100% of the total weight of fuel burned.

The water injection cools the flame which lowers the temperature which is the mechanism by which NO_X is formed in the combustion process.

To prevent high temperature corrosion of the turbine blades, only demineralized water can be used for the water injection (with Sodium content of 1 PPM or less). There is an efficiency loss in the combustion turbine due to water injection as follows:

Assume 1# of water need per 1# of fuel fired.

Δh (Heat required to vaporize 1# of water at 70°F to 726°F exhaust temperature) = 1,356 BTU/#

Heating Value of fuel = 19,500 BTU/#

$$\text{Gross Loss in Thermal Efficiency} = \frac{\Delta h \text{ injection water}}{19,500} = \frac{1,356}{19,500} = 6.95\%$$

DRY METHOD

As an alternate, most manufacturers are developing burner chambers that will reduce NO_X emissions to the allowable level by staging the fuel combustion in various zones of the burner chambers to lower the overall burner temperatures and NO_X formation conditions. Presently this type of control is not available commercially for a gas turbine plant, but it is possible that due to rapid development, the "dry" NO_X burner chambers will be available at the time or soon after the new generating units will be operational (October 1980).

There is no loss in thermal efficiency when using the dry type emission control method and consequently it is the preferred method.

EXHIBIT C

SOCIAL ECONOMIC IMPACT

A fundamental social economic benefit is derived from the adequacy of electric supply to meet society's demand for energy. The proposed installation of 200 MW of gas turbine capability at Suwannee River Plant is part of a strategic generation expansion plan that has been evaluated as the economic optimum choice from a set of alternative plans. This selected strategy considers state wide coordination, including purchase power agreements and joint venture projects.

The construction of a four unit project will employ a peak construction work force and supervisory staff of approximately 125 people. Capitalized construction costs of each individual unit is estimated at approximately $10.5 million, including state sales taxes of approximately $275,000. Construction payroll will impact the local community with expected average monthly payroll for the project of $100,000 over the 18 month period. This represents a benefit to employment and the local economy relative to the subsistence needs of these local and transient workers. In addition to labor payroll, construction materials and supplies will be purchased from local businesses. Additional sales taxes will be derived from partial expenditure of this payroll by the construction labor force.

The unit will become operational in October 1980. The social economic impact of the operation of the plant can be best analyzed on a total project basis, as opposed to individual unit price and the resulting economic benefit could theoretically be allocated in proportionate shares to each unit.

This project will create an estimated eleven new permanent jobs to operate, maintain and manage the facilities, with an estimated new annual payroll of $275,000. These people will be residents of the local area and their income will stimulate the local economy, by the construction of homes and the consumption of goods and services to meet their living needs. State sales taxes and local property taxes will also be impacted by the presence of these plant personnel.

Production of energy from this plant will represent a vital part of the state's energy needs during peak load requirements. The role of these facilities in the overall configuration of Florida Power's generation plans is expected not to exceed 1500 hours per year, to supply peak load requirements. The characteristic low capital cost of these facilities, in spite of their higher fuel costs, results in an economic contribution to the energy supply for our system and for the state. The fuel oil consumed by these units is minimal because of the limited hours a year of operation during peak load requirements only.

The supply of fuel and the supply of outside materials and services to operate and maintain these facilities represents additional social economic benefit. The social economic costs of the presence of these facilities is represented by the added stress on socio-eco systems, including traffic congestion and other problems associated with higher population density - particularly during the construction phase.

EXHIBIT D

ASSESSMENT OF THE ENVIRONMENTAL IMPACT OF THE SOURCES

The site selected for the proposed combustion turbines is immediately adjacent to the existing fossil-fueled units of the Suwannee River Generating Facility. Because these new units will be built on already cleared and partially compacted land, no impact to natural vegetation or wildlife is anticipated. No alteration to the local hydrology is expected, and storm water runoff patterns will not be altered.

Any waste waters generated will be conveyed to the existing evaporation/percolation ponds. The noise generated during construction should be antenuated before it reaches the property boundaries.

The only potential environmental impact is alteration of the ambient air quality. This impact will be discussed in the Prevention of Significant Deterioration permit application.