BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060162-EI

In re: Amended Petition of Progress Energy Florida, Inc.
to recover modular cooling tower costs
through the environmental cost recovery clause.

REVISED DIRECT TESTIMONY OF THOMAS LAWERY

July 13, 2006

Q. Please state your name and business address.

A. My name is Thomas Lawery. My business address is 8202 West Venable Street, Crystal River, Florida 34429.

Q. By whom are you employed and in what capacity?

A. I am employed by Progress Energy Florida, Inc. (PEF) as Manager of Regional Engineering.

Q. What are your responsibilities in that position?

A. I provide engineering and technical support to the fossil power plants for PEF. This includes projects and troubleshooting for the Crystal River fossil plants, Anclote plant, Suwannee plant and Bartow plant.

Q. Please describe your educational background and professional experience.

A. I have a B.S. degree in Electrical Engineering from Florida State University and I am presently pursuing a MBA at the University of Tampa. I am a registered Professional Engineer in Florida with seventeen years experience in fossil power plant operation and design. I have been involved in financial and technical aspects of managing, evaluating and developing power generation assets.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support the Company's request for recovery of costs for installation and operation of modular cooling towers at PEF's Crystal River plant. Specifically, I describe the modular cooling tower project, present cost estimates for the project, and describe how the Company will assess the effectiveness of the project.

Q. Are you sponsoring any exhibits with your testimony?

A. Yes. I am sponsoring Exhibit No. __ (TL-1), a chart that shows cooling water inlet temperatures for the summer months in 2003 through 2005, and the associated amount of de-rates that have been necessary to ensure compliance with the permit limit for the temperature of the cooling water discharged from PEF's Crystal River plant during the same time period.

Q. Please describe the modular cooling tower project.

A. The project involves the installation and operation of cooling towers in order to minimize "de-rates" of Crystal River Units 1 and 2 (CR-1 and CR-2) necessary to comply with the permit limit on the temperature of cooling water discharges from the Crystal River plant. The Project involves installation and operation of modular cooling towers in the summer months (mid-May through mid-September) in order to reduce the discharge canal temperature. This will enable PEF to reduce the number and extent of de-rates and thereby reduce replacement fuel and purchase power costs.

The specific type and capacity of modular units to be installed will depend upon the results of an ongoing competitive bidding process. Based on physical limitations, environmental permitting considerations and projected temperature decreases, however, the Company has assumed a water flow capacity of approximately 180,000 gallons per minute for purposes of analysis. At this capacity, the rental towers would reduce hourly de-rates attributable to the thermal permit limit by approximately 330 MW.

Q. What is meant by the term "de-rate"?

A "de-rate" is a temporary reduction in the output of a generating unit. Because CR-1 and CR-2 are base-load coal units, whenever those units are de-rated PEF must replace the lost generation by using more expensive oil or gas-fired units, or by purchasing higher-cost power on the open market.

Q. Why have de-rates been necessary to comply with the thermal permit limit?

A. At Progress Energy's Crystal River plant, water is removed from the Gulf of Mexico and used to condense turbine exhaust steam to water. The Crystal River generating units share a common discharge canal that sends the cooling water back into the Gulf of Mexico. The Florida Department of Environmental Protection (FDEP) industrial wastewater permit for the Crystal River plant includes a limit on the temperature of cooling water discharges (i.e., 96.5º F 3-hour rolling average). This limit must always be met regardless of the temperature of the inlet waters from the Gulf of Mexico.

The primary strategy for complying with the thermal permit limit is the operation of permanent cooling towers. Plant operation and maintenance personnel strive to maintain a 100% availability of the towers during months of peak usage. Once the cooling capacity of the towers is reached, the only other immediate option to ensure compliance with the thermal permit limit is to de-rate CR-1, CR-2 or both. Recently, de-rates necessary to ensure permit compliance have increased due to weather conditions beyond PEF's control that have increased the temperature of inlet waters for the CR-1 and CR-2 cooling systems. As shown in Exhibit No. __ (TL-1), inlet water temperatures and associated thermal de-rates were particularly severe in the summer of 2005 which, according to the National Weather Service, was the second hottest summer since 1890.

Q. In general, what are the economic effects of de-rates due to the temperature permit limit?

A. As I previously noted, whenever the Crystal River units are de-rated, PEF must replace the lost generation by using more expensive oil or gas-fired units, or by purchasing higher-cost power on the open market. De-rates due to the thermal permit limit have occurred mostly during the hottest summer days during peak demand periods when fuel and purchase power costs are at a peak. In addition, if off system sales opportunities are available during the periods when CR-1 and/or CR-2 are de-rated, those opportunities and the associated customer benefits are lost.

Q. Has the Company explored the possibility of obtaining less stringent permit conditions?

A. Yes. Based on discussions with FDEP, however, the likelihood of obtaining less stringent permit conditions is negligible and would depend upon the results of lengthy and expensive scientific studies that may prove inconclusive.

Q. Has PEF explored other alternatives to the modular cooling towers?

A. Yes. The Company evaluated and compared several alternatives, including: (a) installation of new permanent helper cooling towers; (b) installation of additional cells to the existing cooling towers; (c) enhancement of existing

cooling tower fan performance to reduce recirculation and interference; and (d) installation of additional dilution pumps to dilute the temperature of the water in the discharge canal. Based on the relative efficiencies and costs of the various options, however, PEF determined that the modular cooling tower solution would be most cost-effective. Moreover, use of modular towers will enable the Company to assess whether the thermal de-rate problem is a temporary or cyclical phenomenon before costs are unnecessarily expended on a permanent solution. Unlike permanent towers, the modular towers can be easily mobilized and used at other locations if they are no longer needed at Crystal River at some point in the future.

Q. What are the projected costs of the temporary cooling tower project?

A. PEF estimates project costs of approximately $2 million to $3 million per year beginning in 2006. Project costs are expected to include O&M expenses for unit mobilization and setup, rental fees, de-mobilization, and fill replacement. Additionally, in 2006, PEF expects to incur one-time capital expenses of approximately $1.5 million to $2 million for installation and ancillary equipment, such as power transformers, switchgear, and cable.

Q. What steps is PEF taking to ensure that the costs of the modular temporary cooling tower project are reasonable and prudent?

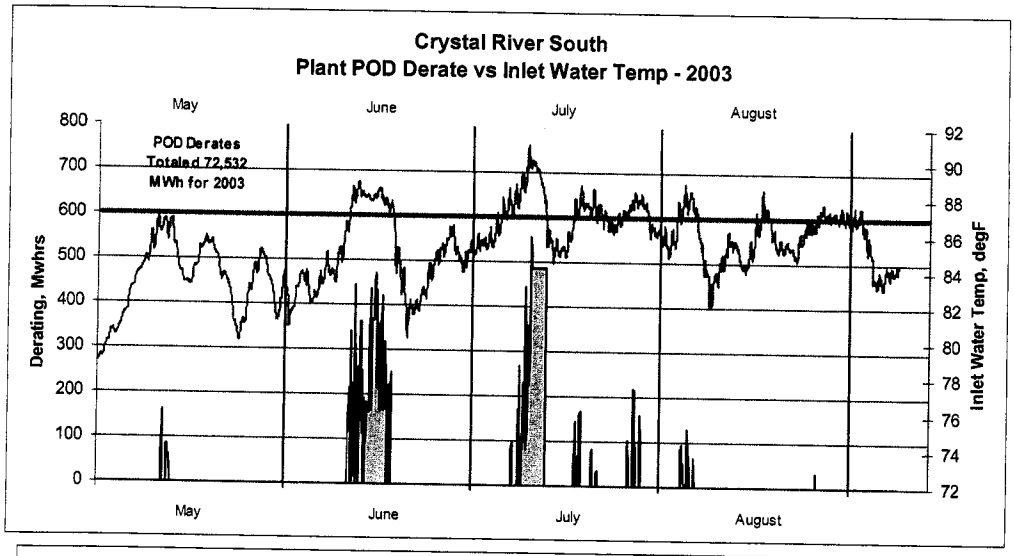
A. PEF is conducting a competitive bidding process to ensure that costs are reasonable and prudent. As part of the bid evaluation process, PEF is

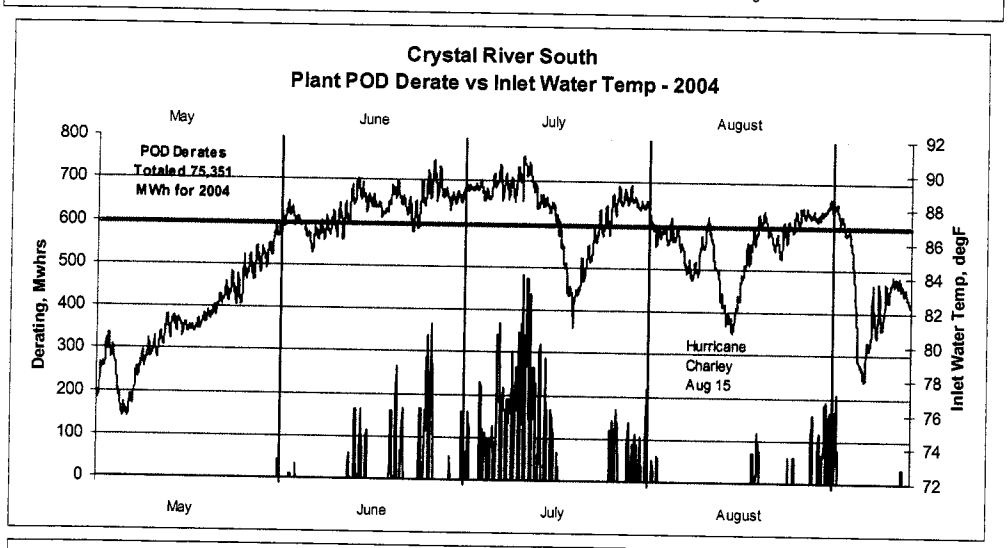
analyzing traditional leasing and lease-to-own options submitted by various bidders.

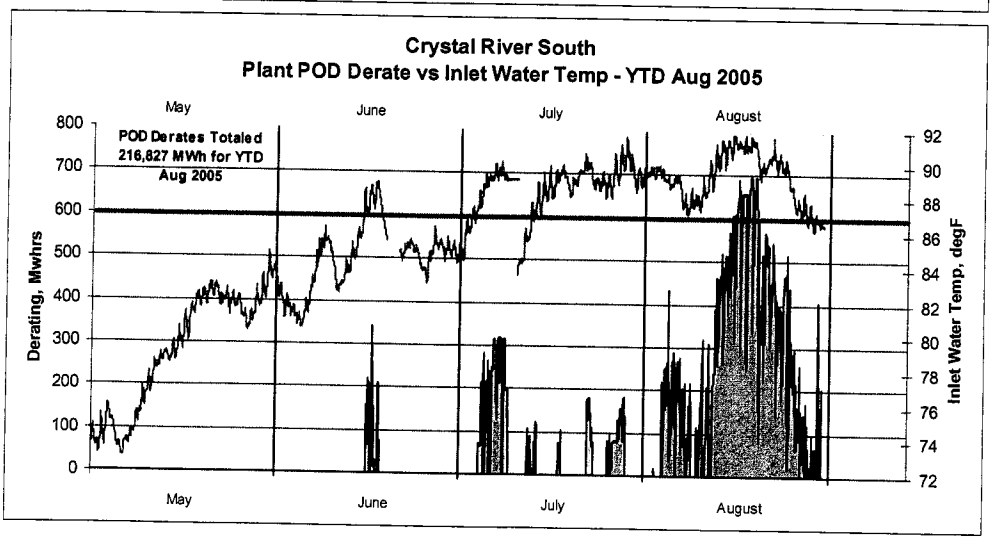
Q. Does this conclude your testimony?

A. Yes, it does.

Docket No. 060162-EI
Progress Energy Florida
Witness: Thomas Lawery
Exhibit No. __ (TL-1)
CR-1 & CR-2 Thermal De-Rates







Derate Water Temp 87° Water Temp