ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY OF JONATHAN F. SCHAEFER

ON BEHALF OF

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 050256-EM

APRIL 13, 2005

Q. Please state your name and business address.

A. My name is Jonathan F. Schaefer. My business mailing address is 800 North Magnolia Ave. Suite 300 Orlando, Florida 32803.

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

A. I am employed by R. W. Beck as a Senior Consulting Engineer.

Q. Please describe your responsibilities in that position.

A. As a Senior Consulting Engineer I am responsible for power supply planning which includes: evaluation of power supply alternatives, production costing, and fuel and purchased power budgeting. I am responsible for project load forecasting which includes: load and energy forecasting, presentations, and expert testimony. I am also responsible for the evaluation of demand-side management programs which include screening demand-side alternatives, cost-effectiveness evaluations, and other quantitative and qualitative evaluations.

Q. Please state your educational background and professional experience.

A. I received a Bachelors of Science degree in industrial engineering from Geneva College. I also received Masters of Science degrees from the Florida Institute of Technology and the University of Central Florida in systems management and industrial engineering, respectively. I have over 16 years of experience in the utility industry. Before rejoining R. W. Beck I worked as a Planning Engineer for the Kissimmee Utility Authority (KUA), where my responsibilities included the development of the utility's annual load, energy and customer forecast, fuel and purchased power budget, and KUA's Ten-Year Site Plan. I rejoined R. W. Beck in 2001.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to summarize forecast of electrical power demand and energy consumption for the All-Requirements Project (ARP) performed by R.W Beck. This summary will include a brief description of the methodology of the forecast, as well as the projected annual growth rates for the summer and winter peaks, and the net energy for the load.

Q. Are you sponsoring any sections the Treasure Coast Energy Center (TCEC) Unit 1 Need for Power Application, Exhibit No. __ (FMPA -1)?

A. Yes. I am sponsoring Section 3, which was prepared by me or under my direct supervision. I also am sponsoring Appendix A to the Need for Power Application, a report entitled "Energy and Demand Forecast, All-Requirements Project, 2004," which R.W. Beck prepared for FMPA.

Q. Please briefly describe the methodology used to determine the load forecasts for the All-Requirements Project.

A. FMPA uses a forecasting process that balances complex mathematical models with sound judgment and expert knowledge. To predict energy requirements FMPA relies on econometric forecasting. Econometric forecasting involves the use of regression to develop historical relationships between energy consumption and other known variables based on fundamental economic theory and professional experience. These relationships are then evaluated, and selected on the merits of their statistical ability to explain variations in energy consumption. Section 3.4 of the TCEC Unit 1 Need for Power Application, Exhibit No. __ (FMPA-1), summarizes the general methodology used to forecast load for each rate classification.

Q. What were the results of the forecast for the All-Requirements Project's energy and demand?

A. The ARP's net energy for load is expected to grow from 7,069 GWh in 2005 to 10,918 GWh in 2024 at an average annual growth rate of 2.5 percent from 2005-2014, and an average annual growth rate of 2.2 percent from 2015 through 2024. The winter peak demand is expected to grow from 1,413.7 MW in 2005 to 2,173.7 MW in 2024 at an average annual growth rate of 2.4 percent from 2005-2014, and an average annual growth rate of 2.1 percent from 2015 through 2024. The summer peak demand is expected to grow from 1,407.1 MW in 2005 to 2,176.0 MW in 2024 at an average annual growth rate of 2.5 percent from 2005-

2014, and an average annual growth rate of 2.2 percent from 2015 through 2024. The results of the ARP's demand and energy forecast are summarized in Table 3-2 of the TCEC Unit 1 Need for Power Application, Exhibit No. __ (FMPA-1).

Q. Were any alternative load forecasts developed to be used to perform sensitivity analyses?

A. Yes. In addition to the base case forecast that I just described, two more long term forecasts were developed. The base case projection reflects the most likely projection of peak demand and net energy for load. High and low case projections were developed to capture the standard error of regression. High case projections were developed by adding one standard error of the regression to the base case, and low case projections were developed by subtracting one standard error from the base case. Together, the high and low forecasts form a band of uncertainty that is intended to capture approximately 67 percent of the possible occurrences associated with the peak demand and net energy for load forecasts. Summaries of the results of the high case and low case forecasts are presented in Tables 3-3 and 3-4, respectively, in Exhibit No. __ (FMPA-1), the TCEC Unit 1 Need for Power Application.

Q. In your opinion are the assumptions used in the load forecasts reasonable for planning purposes?

A. Yes. Historical member data for ARP members was provided by FMPA. Weather data was provided by the National Climatic Data Center (a subsidiary

of the National Oceanic and Atmospheric Administration). Economic data was provided by Economy.com. Both Economy.com and the National Climatic Data Center are nationally recognized organizations, with reputations as excellent sources of data. The historical member data provided by FMPA included documentation for the 2003 Load and Energy Forecast, which was prepared by the FMPA staff.

Q. Does this conclude your pre-filed testimony?

A. Yes.