BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

PETITION FOR APPROVAL OF NUMERIC CONSERVATION GOALS

DOCKET NO. 040030-EG

JEA

JUNE 1, 2004

TESTIMONY AND EXHIBITS OF:

MYRON R. ROLLINS

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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Q Please state your name and address.

A My name is Myron R. Rollins. My business address is 11401 Lamar, Overland Park, Kansas 66211.

Q By whom are you employed and in what capacity?

A I am employed by Black & Veatch as a Project Manager in the Consulting Engineering Services section of the Energy Engineering and Construction Division.

Q Please describe your responsibilities in that position.

A As a Project Manager in the Consulting Engineering Services section, I am responsible for managing various projects for utility and non-utility clients. These projects encompass a wide variety of services for the power industry, including load forecasts, conservation and demand-side management, reliability criteria and evaluation, development of generating unit addition alternatives, fuel forecasts, screening evaluation, production cost simulation, optimal generation expansion modeling, economic and financial evaluation, sensitivity analysis, risk analysis, power purchase and sales evaluation, strategic considerations, analyses of the

effects of the 1990 Clean Air Act Amendments, feasibility studies, qualifying facility and independent power producer evaluations, power market studies, and power plant financing.

Q Please state your professional experience and educational background.

A. I received a Bachelors of Science degree in Electrical Engineering from the University of Missouri – Columbia. I also have two years of graduate study in nuclear engineering at the University of Missouri – Columbia. I am a licensed professional engineer and a Senior Member of the Institute of Electrical and Electronic Engineers.

I have been employed by Black & Veatch since 1976 and in the last 10 years, I have been the project manager for over 100 projects. I have conducted the majority of my work for Florida utilities, including Lakeland Electric, Kissimmee Utility Authority, Florida Municipal Power Agency, Orlando Utilities Commission, JEA, City of St. Cloud, City of Tallahassee, Utilities Commission of New Smyrna Beach, Sebring Utilities Commission, City of Homestead, Progress Energy Florida (formerly Florida Power Corporation), and Seminole Electric Cooperative.

I attempt to stay abreast of Florida Public Service Commission (FPSC) proceedings. For instance, I have been the Project Manager for numerous Ten-Year Site Plans for Kissimmee Utility Authority, Lakeland Electric, Orlando Utilities Commission, and JEA. I have previously presented testimony before the FPSC for the Stanton 1, Stanton 2, Stanton A, AES-Cedar Bay, Cane Island 3,

and McIntosh 5 Need for Power applications. I have also participated in the preparation of testimony for Seminole Electric's Hardee County Combined Cycle Project, the Cypress Project, and the Hines Energy Center Project Need for Power applications.

I have also presented testimony in Docket No. 990720-EG, Adoption of Numeric Conservation Goals for JEA and Docket No. 990722-EG, Adoption of Numeric Conservation Goals for Orlando Utilities Commission.

Q Please describe the overall process leading to the determination of the proposed numeric conservation goals for JEA?

A Determination of JEA's proposed numeric conservation goals consisted of a number of steps. Initially, a list of DSM measures was compiled. Second, information on the avoided generating unit was developed. Next, the DSM measures compiled in the initial step were analyzed for cost-effectiveness using the Florida Integrated Resource Evaluator (FIRE) model. Once the cost-effectiveness analysis was complete, the results of the three FIRE model benefit to cost ratio tests were reviewed. Based on these results, the proposed numeric conservation goals for 2005 through 2014, and the corresponding Demand-Side Management Plan, were developed.

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

A The purpose of my testimony in this proceeding is to address the process resulting in the development of JEA's proposed numeric conservation goals for 2005 through 2014. My testimony will include discussion of the selection of the

measures tested with the FIRE model, the determination of the avoided generating unit characteristics, and the methodology used to evaluate the cost-effectiveness of these DSM measures. I will also discuss the economic assumptions utilized in the cost-effectiveness evaluations, as well as the fuel price projections used. My testimony will demonstrate that JEA has adequately explored demand-side management measures and is proposing appropriate numeric conservation goals.

Q Were the JEA 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation (Exhibit JEA-1) and the JEA 2004 Numeric Conservation Goals: Demand-Side Management Plan (Exhibit JEA-2) prepared by you or under your direct supervision?

A Yes. JEA's 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation (Exhibit JEA-1) and JEA's 2004 Numeric Conservation Goals: Demand-Side Management Plan (Exhibit JEA-2) were prepared under my direct supervision.

Q Are you adopting Sections of the JEA 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation (Exhibit JEA-1) and the JEA 2004 Numeric Conservation Goals: Demand-Side Management Plan (Exhibit JEA-2) as part of your testimony?

A Yes, I am adopting Exhibit JEA-1, the JEA 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation and Exhibit JEA-2, the JEA 2004 Numeric Conservation Goals: Demand-Side Management Plan as part of my testimony.

Q Are there any corrections to these Exhibits?

A No, there are no corrections to either of these Exhibits.

Q Please describe the evaluation process by which JEA determined the demand side management measures for cost effectiveness analysis.

A Various sources were relied upon in determining the demand-side management measures carried forward to the cost-effective analysis. Sources used to determine which DSM measures should be evaluated included the FPSC suggested measures for evaluation (Document No. 12017-97 in Docket Nos. 971004, 971005, 971006, 971007), existing JEA conservation measures, FPSC filings from other Florida utilities, and various other sources. For each measure analyzed, measure-specific assumptions and characteristics were developed as well. Once all sources were investigated, approximately 200 measures were evaluated for cost-effectiveness.

Q Please describe how the avoided costs were determined.

A Avoided costs are determined by selecting an avoided unit. The avoided unit is the unit that could potentially be avoided or delayed due to the implementation of DSM programs.

The selection of JEA's avoided unit is based on the next planned capacity addition for JEA as presented in its 2004 Ten-Year Site Plan, filed with the Florida Public Service Commission in April, 2004. The capacity expansion plan presented in JEA's 2004 Ten-Year Site Plan indicates that the first capacity addition, beyond the conversion of two of the Brandy Branch simple cycle units

to a combustion turbine combined cycle configuration which is currently under construction, is the construction of a General Electric 7EA combustion turbine in 2010. While there are no definitive plans for construction of such a unit, JEA believes that comparing the cost-effective analysis of DSM measures to the addition of a 7EA combustion turbine is appropriate. It should be noted that should JEA ultimately pursue a different, more cost-effective solution to satisfying forecast capacity requirements other than the addition of the 7EA combustion turbine, the DSM measures evaluated as part of this filing would be even less cost-effective.

Q Please describe the evaluation process by which potential DSM programs were evaluated?

A The process used to evaluate the cost-effectiveness of DSM programs conforms to that required in Rule 25-17.008, Florida Administrative Code. Specifically, the procedures used are those set forth in the Florida Public Service Commission Cost-Effectiveness Manual for Demand Side Management Programs and Self Service Wheeling Proposals. The FIRE model, originally developed by Florida Power Corporation (now Progress Energy Florida), was used to assess the potential cost-effectiveness of DSM measures.

Using the procedures specified in Rule 25-17.008, Florida Administrative Code, the FIRE model provides a systematic framework for identifying the benefits and costs associated with specific DSM measures. Avoided utility costs are economically evaluated against DSM costs and load impacts to assess the cost-effectiveness of the measure over its useful life. Three DSM measure benefit to

cost tests are produced by the FIRE model and are used in determining the cost-effectiveness of the DSM measures evaluated. These tests are the Rate Impact Test (RIM), the Total Resource Test (TRC), and the Participant Test. The results of the three cost-effectiveness tests for the DSM programs evaluated are shown in Appendices D and E of Exhibit JEA-1, JEA's 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation.

Q What economic parameters were assumed as inputs to the FIRE model?

A A general inflation rate of 2.34 percent was used, which is applicable to unit capital costs, fixed and variable operations and maintenance (O&M) expenses, and various other expenses. A long-term bond interest rate of 5.0 percent was assumed, and the same assumption (5.0 percent) was used for the interest during construction rate. The levelized fixed charge rate of 7.61 percent was developed based on the 5.0 percent bond interest rate and was applied to the capital cost of the avoided unit in the FIRE model cost-effectiveness evaluations.

Q What fuel forecasts were developed or used in the FIRE model evaluations?

A Appendix A of Exhibit JEA-1, JEA's 2004 Numeric Conservation Goals: Demand-Side Management Measure Evaluation, presents the fuel price projections used in the FIRE model cost-effectiveness evaluations.

Q Are the fuel price projections developed reasonable for use in evaluating different generating unit alternatives?

A Yes. The fuel price projections are consistent with current fuel prices for JEA's existing generating units and are therefore reasonable to use in evaluation of the

cost-effectiveness of DSM measures as compared to JEA's avoided generating unit.

Q Please describe the three DSM tests used to evaluate DSM programs.

A All three DSM cost-effectiveness tests are based on the comparison of discounted present worth benefits to costs for a specific DSM measure. Each test is designed to measure costs and benefits from a different perspective.

The Rate Impact Test is a measure of the expected impact on customer rates resulting from a DSM measure. The test statistic is the ratio of the utility's benefits (avoided supply costs and increased revenues) compared to the utility's costs (program costs, incentives paid, increased supply costs, and revenue losses). A value of less than one indicates an upward pressure on rate levels as a result of the DSM measure. Stated otherwise, a measure with a Rate Impact Test value of less than 1.0 would not be considered cost-effective from the utility's perspective.

The Total Resource Test measures the benefit to cost ratio by comparing the total program benefits (both the participant's and utility's) to the total program costs (equipment costs, utility costs, and participant costs).

The Participant Test measures the impact of the DSM measure on the participating customer. Benefits to the participant may include bill reductions, incentives paid, and tax credits. Participants' costs may include equipment costs, operation and maintenance expenses, equipment removal, and other costs.

Q Which cost-effectiveness test was utilized by JEA in evaluating DSM measures?

A All three cost-effectiveness tests were conducted for each DSM measure analyzed and considered in our evaluation, and can be found in Appendix E of Exhibit JEA-1. The Rate Impact Test serves as the primary test for JEA in determining cost-effectiveness of DSM measures. In other words, JEA does not, in general, support DSM programs which increase rates. Therefore, if a situation arises in which either or both the Total Resource Test and/or the Participant Test appear to be cost-effective for a specific DSM measure, unless the Rate Impact Test result is greater than or equal to 1.0, the measure will not be considered cost-effective by JEA.

Q Please describe the selection of DSM measures for evaluation.

A Approximately 200 DSM measures, consisting of measures applying to the residential, commercial, and industrial sectors, were evaluated for cost-effectiveness using the FIRE model. The multitude of measures evaluated ensures that potentially cost-effective measures have been considered. Various sources were relied upon in determining the demand-side management measures carried forward to the cost-effective analysis. Sources used to determine which DSM measures should be evaluated included the FPSC suggested measures for evaluation (Document No. 12017-97 in Docket Nos. 971004, 971005, 971006, 971007), existing JEA conservation measures, FPSC filings from other Florida utilities, and various other sources. For each measure analyzed, measure-specific assumptions and characteristics were developed as well. A listing of the sources utilized for each measure is presented in Appendix B of Exhibit JEA-1, and the

measure assumptions are available in Appendix C of Exhibit JEA-1.

Q Please describe the results of the analysis undertaken to evaluate the cost - effectiveness of potential DSM measures.

A Based on the Rate Impact Test, which is JEA's test for determining the cost-effectiveness of a DSM measure, two of the measures evaluated were cost-effective. However, closer analysis of these measures reveals that it is unlikely that either of these measures has the potential for sufficient participation. Therefore, JEA believes that neither of these measures should have numeric conservation goals associated with them.

Q Which of the measures tested for cost-effectiveness passed the Rate Impact Test, and why does JEA consider it prudent to not associate numeric conservation goals with these measures?

A Of the measures tested by JEA, Off-Peak Battery Charging and Constructing an Energy Efficient Home – Professionals passed the Rate Impact Test. As described in Section 5 of Exhibit JEA-1, Off-Peak Battery Charging involves installing equipment and providing incentives to golf courses to encourage them to charge their golf carts during the off-peak hours. A survey taken of golf courses in the JEA service territory indicated that the courses were already charging their carts during off-peak hours, which shows that there would not be sufficient participants for a new Off-Peak Battery Charging program when proper consideration was given to free riders.

Constructing an Energy Efficient Home – Professionals is an educational seminar

for construction professionals which addresses all aspects of constructing an energy efficient home. In its initial years, participation in the seminar exceeded expectations. Attendance has since declined to a point where JEA no longer offers the program.

Q Does it surprise you that only two of the DSM measures evaluated proved to be cost-effective for JEA, and that those measures do not appear likely to be successful if implemented?

A No. The results of the cost-effectiveness analysis of the DSM measures were consistent with what I expected.

Q Why did you not expect any DSM measure to be cost-effective or likely to be successful?

A In Docket 990720-EG, Adoption of Numeric Conservation Goals for JEA, none of the DSM measures and programs evaluated were found to be cost-effective. As such, I did not expect any of the DSM measures or programs would be cost-effective or successful now. This is consistent with my experience in evaluating the cost-effectiveness of DSM measures and programs for other Florida municipal utilities using the FIRE model.

Q Why is it so much more difficult for DSM to be cost-effective today than it was as recently as 1995?

A A number of factors have changed causing DSM to be less cost-effective than in previous years. For instance, appliances have become more efficient and building codes and practices result in construction of more efficient buildings, often due to

federal government mandates, which have decreased the amount of incremental savings achievable. Additionally, the cost of construction of new power plants has decreased, while the efficiency of new plants has increased. The lower capital costs of new power plants, coupled with the decline of interest rates to near all-time lows, along with the efficiency improvements, all combine to result in DSM being less cost-effective than in years past.

Q Have there been any changes that make DSM more cost-effective?

A In general, the most significant change since previous evaluations which tends to improve the cost-effectiveness of DSM measures is the increase in natural gas prices. However, as evidenced by the results of the analysis, even with the higher natural gas price forecast, DSM measures tend not to be cost-effective.

Q Why do the investor owned utilities indicate that some DSM measures are cost-effective while municipal utilities do not?

A The primary reason why the investor owned utilities periodically indicate that some DSM measures are cost-effective while the municipal utilities do not is that the municipal utilities have the benefit of using tax exempt financing for construction of supply-side resources (i.e. the avoided generating unit). Thus, the cost of financing new power plant construction is considerably less for municipal utilities than for investor owned utilities.

Q Does this conclude your testimony?

A Yes.