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BEFORE THE PUBLIC SERVICE COMMISSION
DIRECT TESTIMONY OF BRADLEY E. KUSHNER
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 Bradley E. Kushner. My business mailing address is 11401 Lamar Avenue, Overland Park, Kansas 66211.

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

A. I am employed by Black & Veatch as a technical specialist in the Enterprise Management Solutions Division.

Q. Please describe your responsibilities in that position.

A. I am responsible for production cost modeling associated with utility system expansion planning, as well as feasibility studies and demand-side management (DSM) evaluation. I also have involvement in the issuance and evaluation of requests for proposals (RFPs).

Q. Please state your educational background and professional experience.

A. I received my Bachelors of Science in Mechanical Engineering from the University of Missouri – Columbia in 2000. I have five years of experience in

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1 the engineering and consulting industry. I have experience in the development
2 of integrated resource plans, ten-year-site plans, demand-side management
3 plans, and capacity planning studies. I also have experience in production
4 costing and economic analysis to provide electric utilities with recommendations
5 as to which capacity additions would be most cost-effective to satisfy system
6 requirements.

7
8 **Q. What is the purpose of your testimony in this proceeding?**

9 A. The purpose of my testimony is to discuss the evaluation of demand side
10 management programs in the Treasure Coast Energy Center (TCEC) Unit 1
11 Need for Power Application.

12
13 **Q. Are you sponsoring any sections of Exhibit No. ___ (FMPA-1) the TCEC
14 Unit 1 Need for Power Application?**

15 A. Yes. I am sponsoring Section 11 of Exhibit No. ___ (FMPA-1) the TCEC Unit 1
16 Need for Power Application, which was prepared by me or under my direct
17 supervision.

18
19 **Q. Please explain how demand-side management (DSM) is conducted by
20 FMPA.**

21 A. FMPA is a wholesale supplier of electricity to the All Requirements Project
22 (ARP) members. As such, FMPA does not directly implement DSM to retail
23 customers. The individual ARP members actually provide the DSM programs

1 to their customers. FMPA fully supports DSM and provides assistance to ARP
2 members implementing DSM programs.

3

4 **Q. Are ARP members offering any DSM programs currently?**

5 A. Yes several members offer various DSM programs. These existing programs
6 include the following:

- 7 • Energy Audits
- 8 • Load Management
- 9 • High-Pressure Sodium Outdoor Lighting Conversion
- 10 • Load Profiling for Commercial Customers
- 11 • Fix-up Program for the Elderly and Handicapped
- 12 • Residential Load Management
- 13 • Energy Star Program

14

15 **Q. What has been the trend recently among ARP members regarding direct
16 load control?**

17 A. The trend has been toward discontinuing direct load control programs.
18 Kissimmee, Leesburg, and Ocala all had direct load control programs and have
19 discontinued their use or are in the process of discontinuing their use. The
20 primary reason is the direct load control equipment installed is antiquated and
21 much of it no longer works. This results in the utilities making rebate payments
22 to customers without having the ability to control the customer's loads. The cost
23 to replace the equipment is prohibitive and customers have generally expressed

1 a preference to not have direct load control. This general trend away from direct
2 load control has also been witnessed by the investor owned utilities in the state.

3

4 **Q. Is the conservation and DSM separately accounted for in the loads for the**
5 **ARP members?**

6 A. No. It is embedded in the ARP member utility's load forecast. In the case of
7 direct load control, the direct load control has not been exercised by the member
8 utilities for several years.

9

10 **Q. How was conservation and DSM evaluated in the TCEC Unit 1 Need for**
11 **Power Application?**

12 A. A very systematic approach was taken to the evaluation of conservation and
13 DSM in the TCEC Unit 1 Need for Power Application. First numerous
14 conservation and DSM measures were identified and cost, as well as demand
15 and energy savings, were developed for each measure. The primary sources for
16 this information were the 2004 Conservation Goals filings before the
17 Commission for JEA and Orlando Utilities Commission (OUC). In all,
18 approximately 140 conservation and DSM measures were developed. Next, the
19 conservation and DSM measures were evaluated using the Florida Integrated
20 Resource Evaluator (FIRE) model. The FIRE model has been used extensively
21 in conservation and DSM filings before the Commission and has been found to
22 be an appropriate means of evaluating conservation and DSM.

23

1 The FIRE model requires three main sources of input. The first is the
2 characterization of the conservation and DSM measures as discussed above.
3 The second is the cost and characteristics of the unit to be avoided with the
4 conservation and DSM which in this case is TCEC Unit 1. Finally utility system
5 specific information such as rates are required. Although ARP has 15 different
6 utility system members, the rates for Keys Energy Services (KEYS) were used
7 for the FIRE model because KEYS has the highest rates of all the ARP
8 members. If conservation and DSM are not cost-effective for KEYS, they will
9 not be cost-effective for any of the ARP members.

10

11 The FIRE model provides three tests designed to measure the cost-effectiveness
12 of conservation and DSM from different perspectives:

- 13 • The *Total Resource Test* measures the benefit-to-cost ratio of a specific
14 measure by comparing the total benefits (both the participant's and the
15 utility's) to the total costs (equipment costs, utility costs, participant
16 costs, etc.).
- 17 • The *Participant Test* measures the impact of the DSM measure on the
18 participating customer. Benefits to the participant may include bill
19 reductions, incentives, and tax credits. Participants' costs may include
20 equipment costs, O&M expenses, equipment removal, etc. The
21 Participant Test is important because customers will not participate in a
22 program if it is not cost-effective from their perspective.
- 23 • The *Rate Impact Test* is an indicator of the expected impact on customer
24 rates resulting from a DSM measure. The test statistic is the ratio of the

1 utility's benefits (avoided supply costs and increased revenues)
2 compared to the utility's costs (implementation costs, incentives paid,
3 increased supply costs, and revenue losses). A value of less than 1.0
4 indicates an upward pressure on electricity rates as a result of the DSM
5 program.

6
7 If the benefits to costs ratio of these tests is greater than 1.0, then the conserva-
8 tion and DSM measures are cost effective under the test. FMPA believes that
9 the Rate Impact (RIM) Test is the appropriate test for determining cost-
10 effectiveness. The Commission has also consistently found the RIM test to be
11 appropriate for determining cost-effectiveness.

12
13 **Q. Did any of the conservation and DSM measures pass the RIM test?**

14 A. No. None of the approximately 140 conservation and DSM measures passed the
15 RIM test and thus none of the conservation or DSM measures were found to be
16 cost-effective.

17
18 **Q. Do you agree with FMPA that the RIM test is appropriate for determining
19 cost-effectiveness for conservation and DSM measures?**

20 A. Yes. Cost-effective conservation and DSM should reduce rates, not increase
21 them.

22

1 **Q. Does it surprise you that none of the conservation and DSM measures were**
2 **found to be cost-effective?**

3 A. No. It is unusual that conservation and DSM measures are cost-effective for
4 municipal utilities. The same conclusion was reached for the JEA and OUC
5 Conservation Goals filings and it is the same conclusion that has been reached
6 by integrated resource planning work that I have done for a number of municipal
7 utilities in the state.

8
9 **Q. Why it is unusual for conservation and DSM to be cost effective for**
10 **municipal utilities.**

11 A. There are a number of reasons. Compared to the late 1970's and 1980's,
12 appliance efficiency has increased tremendously. The same is true for the
13 efficiency of buildings. The level of demand and energy savings resulting from
14 DSM has decreased over the past several years. At the same time, the cost of
15 power plants has decreased significantly in real terms, and the efficiency of
16 power plants has increased. While the cost of fuel is currently high, it is
17 generally lower in real terms than experienced in some of the earlier price
18 spikes. Finally, municipal utilities are able to take advantage of low cost tax
19 exempt financing. Interest rates are still near historical lows in nominal terms,
20 let alone real terms. Taking all of these factors together, it is difficult for
21 conservation and DSM to be cost-effective.

22

1 **Q. In your opinion, are there conservation measures available to FMPA or the**
2 **ARP members that could mitigate the need for TCEC Unit 1?**

3 **A. No.**

4

5 **Q. Does this conclude your pre-filed testimony?**

6 **A. Yes.**