State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: DECEMBER 7, 2000

TO: DIRECTOR, DIVISION OF RECORDS AND REPORTING (BAYÓ)

FROM: DIVISION OF ECONOMIC REGULATION (SPRINGER, E. DRAPER, WHEELER)
DIVISION OF LEGAL SERVICES (HART)

RE: DOCKET NO. 000902-EI - PETITION FOR MODIFICATION AND EXTENSION OF EXPERIMENTAL REAL TIME PRICING RATE, RATE SCHEDULE RTP-GX, BY FLORIDA POWER & LIGHT COMPANY.

AGENDA: 12/19/00 - REGULAR AGENDA - TARIFF FILING - INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: 8-MONTH EFFECTIVE DATE: MARCH 20, 2001

SPECIAL INSTRUCTIONS: NONE

FILE NAME AND LOCATION: S:\PSC\ECR\WP\000902.RCM

CASE BACKGROUND

The Commission approved Florida Power & Light Company's (FPL) Real Time Pricing (RTP) rate schedule RTP-GX effective February 1, 1995 in Docket 940423-EG (Order No. PSC-94-1232-FOF-EG). The purpose of the pilot program is to determine customer response to marginal price signals. RTP is an experimental commercial and industrial rate schedule that provides hourly marginal energy prices to customers. Initially, the rate was available to customers whose maximum monthly demands exceeded 1,500 kW. Participation was limited to 50 customers, and the rate was scheduled to expire on December 31, 1998.

FPL had enrolled only four customers under the original RTP rate schedule when they proposed to lower the minimum monthly demand requirement from 1,500 kW to 1,000 kW. This change expanded the number of customers eligible for the rate from 150 to 425. The modified rate schedule was approved by Order No. PSC-96-0027-FOF-EI, issued on January 8, 1996, in Docket No. 951352-EI.

By year-end 1996, FPL had 39 customers on the RTP rate. The number of customers was sufficient to conduct a meaningful experiment, but FPL did not experience sufficient extreme system load conditions to measure the customers' responses to the hourly price signals. Order No. PSC-99-0058-FOF-EG, issued January 6, 1999, granted FPL's request for an extension of the RTP-GX rate through December 31, 2000. The extension was requested to collect conclusive data with both a sufficient number of customers and under extreme system load conditions.

At its November 28, 2000 Agenda Conference, the Commission approved FPL's petition to extend its existing RTP rate schedule through March 31, 2001 (Docket No. 001615-EI).

FPL now seeks to modify the RTP rate offering, and to extend its term through December 31, 2002. The proposed modifications would alter certain components of the RTP rate to increase price volatility and simplify the rate. FPL has also proposed to reduce the program's demand eligibility level from 1,000 kW to 500 kW. This change will increase the number of eligible customers, and will compensate for the anticipated customer migration prompted by the increased price volatility. The proposed tariff provisions were suspended by the Commission by Order No. PSC-00-1871-PCO-EI, issued October 13, 2000. The Commission has jurisdiction of this matter pursuant to Sections 366.03, 366.04, and 366.06, Florida Statutes.

DISCUSSION OF ISSUES

ISSUE 1: Should the Commission approve Florida Power & Light Company's proposed changes to its Real Time Pricing rate schedule?

RECOMMENDATION: Yes. (SPRINGER, E. DRAPER, WHEELER)

STAFF ANALYSIS: Under the RTP program, FPL transmits to customers by 4:00 p.m. a set of hourly prices that will be in effect for the following 24-hour period beginning at midnight. Customers then have an opportunity to adjust their usage to take advantage of the lower-priced hours. FPL's stated purpose for the RTP research program is to examine customer reaction to marginal price signals. The company believes that customers will respond to high hourly energy prices by shifting their load, and this will result in a lower peak demand.

Real time pricing is a refinement of the time-of-use (TOU) pricing that has been in existence for several years. The purpose of TOU pricing is to encourage customers to shift usage from high cost on-peak hours to lower-cost off-peak hours by setting prices that better reflect system costs during those periods. Under current TOU pricing, both the peak periods and the prices are fixed. Under RTP rates, the customer receives hourly prices based on marginal costs. These hourly prices are intended to provide a more accurate price signal than the existing rigid TOU rates.

Hourly RTP Prices

The marginal cost feature of the RTP rate is reflected in the hourly RTP prices conveyed in advance to customers. The RTP prices consist of the following three components:

Marginal Operating Costs (MOP)

The MOP is the short-run variable cost to produce the next unit of output, and consists of incremental fuel and variable operation and maintenance (O&M) expenses. This component is a marginal price, in contrast to the average fuel and O&M prices paid under standard rates. FPL has not proposed any changes to this component of the RTP hourly price.

Marginal Reliability Costs (MREL)

The MREL is designed to recognize that there may be reliability constraints during some hours that must be reflected in the price signal. In hours when it is projected that there will be ample system capacity, this component is zero. However, in those hours when there are system constraints, the MREL reflects this incremental cost. It is derived by multiplying an estimated cost of emergency generation by the probability that there will be unserved load in any given hour. Currently, this component is determined by a complex computer model requiring dozens of hourly inputs.

Historically, the model has produced a very low number of hours for which the value for MREL has not been zero. FPL's data show that in 1997, MREL was zero for all hours of the year. In 1998, MREL was zero for 8,016 of the 8,760 hours in the year. Because the existing model is too complex, and does not produce sufficient price volatility, FPL is proposing to change the method by which MREL is determined.

Under the proposed changes, the MREL component would change based on four system load conditions. For each of these periods, a fixed MREL price is applied to determine the RTP hourly price. The four conditions and their associated MREL prices are as follows:

Condition	**MREL (per kWh)**
Normal	0.0 cents
Peaking	10.0 cents
Critical	30.0 cents
Emergency	90.0 cents

Each hourly RTP price provided to customers would thus fall into one of the four conditions, and would include the associated MREL price shown above. The conditions were chosen based on the relationship between incremental fuel costs and reliability conditions, and system load.

Marginal Recovery (MREC)

This component collects part of the difference between the marginal RTP rate and the standard otherwise-applicable rate. It is collected only in those hours when the sum of the MOP and the

MREL is less than a reference price that represents the average cost of energy at the standard rate.

The current MREC component increases in hours when the MREL component is low, and decreases in hours when MREL is high. Because the MREC moves in a direction opposite to that of MREL, it dampens the impact of the price signals provided by MREL. To eliminate this effect, and to provide a more effective price signal, FPL has proposed to convert the MREC component to a fixed amount added to each hourly RTP price. The proposed MREC is .75 cents per kWh for GSLD(T)-1 and GSLD(T)-2 customers, and .25 cents per kWh for GSLD(T)-3 customers. These fixed amounts were set to recover the same level of MREC revenues as under the existing RTP rate, however, the fixed MREC will eliminate the dampening effect of the current MREC component.

The proposed changes to the MREL and MREC components of the RTP price should result in increased price volatility. This increased volatility will provide a more effective price signal, and will encourage customers to shift their usage from higher-cost to lower-cost hours.

FPL provided an analysis showing that had the proposed changes to the RTP rate been in effect for 1999, it would have realized 99.6% of the revenues actually collected. The proposed changes are thus essentially revenue neutral. Compared with the existing RTP rate, prices during "average" hours will be slightly lower, while prices during "high-priced" periods will be higher. The proposed changes will also simplify the RTP rate, making it easier to understand and administer.

The Customer Baseline Load

FPL's RTP rate is designed to be revenue neutral. Revenue neutrality means that if customers use the same amounts of energy at the same times as they have historically, their bills will not differ from what they would pay under the existing otherwise applicable rate. The starting point for calculating the cost of a bill is determined by a contract-established Customer Baseline Load (CBL).

The CBL is the customer's historic electricity usage used as a benchmark to compare with future electricity usage. FPL must establish a unique CBL for each customer based on historical data. Hourly energy usage for a 12-month period is examined and adjusted for any anticipated changes in usage that are not attributable to participation in the RTP program, such as the installation of energy conservation equipment or the permanent addition or removal of customer equipment or expected load.

In addition, the CBL is adjusted annually based on the previous year's usage. FPL has proposed a minor modification to the manner in which this annual adjustment is made. Under the existing method, the CBL annual adjustment to the customer's kWh consumption and kW billing demand is based only on the change in the customer's kWh consumption. FPL has proposed instead to separately calculate the change in both kWh consumption and billing kW. The adjustment to the CBL will then be made to each component based on its respective change. Staff believes that this change is appropriate, because it will more accurately reflect changes in customers' usage characteristics.

Changes in Experiment Term and Eligibility Requirements

FPL has proposed to extend the term of the RTP experiment through December 31, 2002. FPL asserts that this additional time period, coupled with the changes in the RTP pricing method and CBL adjustment, will allow them to adequately assess customer response to marginal price signals.

FPL has also proposed to reduce the program's demand eligibility level from 1,000 kW to 500 kW. FPL anticipates that increased price volatility caused by changes to the RTP pricing will result in the loss of some current RTP customers. FPL believes that the new lower eligibility threshold will allow it to maintain an adequate number of customers in order to obtain meaningful results. The pilot program will still be limited to no more than 50 customers.

Conclusion

The staff has thoroughly reviewed FPL's proposed modifications to its RTP rate schedule. As part of that review the staff met with FPL rate personnel, and obtained additional information regarding the proposed changes. Based on this review, the staff believes that the proposed changes will simplify the rate, increase the volatility of the price signals sent to customers, and allow FPL to collect meaningful data regarding the response of RTP customers to price signals. Staff therefore recommends that the proposed changes be approved.

ISSUE 2: What is the appropriate effective date of FPL's revised RTP-GX rate schedule?

STAFF RECOMMENDATION: The revised RTP-GX rate schedule should become effective on April 1, 2001. In the event that a timely protest is filed, the RTP-GX tariff should not be effective until after final resolution of the protest. At the termination of the experiment, customers taking service under the experimental rate schedule should return to their standard otherwise applicable rate schedule. (SPRINGER, E. DRAPER, WHEELER)

STAFF ANALYSIS: If the Commission approves the proposed tariff changes, they should become effective on April 1, 2001. This proposed effective date will allow FPL to educate its existing and potential new RTP customers regarding the modified offering.

ISSUE 3: Should this docket be closed?

RECOMMENDATION: Yes, if no protest is filed within 21 days of the issuance of the order. (HART)

STAFF ANALYSIS: If a protest is filed within 21 days of the Commission order approving this tariff, the tariff should remain in effect pending resolution of the protest, with any charges held subject to refund pending resolution of the protest. If no protest is filed, this docket should be closed upon the issuance of a Consummating Order.