

FLORIDA PUBLIC SERVICE COMMISSION
Capital Circle Office Center, 2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

MEMORANDUM

OCTOBER 23, 1997

TO : DIRECTOR OF RECORDS AND REPORTING (BAYO)

FROM : DIVISION OF ELECTRIC AND GAS (WHEELER, GOAD) ^{DRW}
DIVISION OF LEGAL SERVICES (KEATING) ^{WCK RVE}

RE : DOCKET NO. 971172-BI - PETITION FOR APPROVAL OF
MODIFICATIONS TO THE REAL TIME PRICING DEMONSTRATION
TARIFF BY FLORIDA POWER CORPORATION

AGENDA: NOVEMBER 4, 1997 - REGULAR AGENDA - TARIFF FILING -
INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: NOVEMBER 5, 1997 - 60-DAY TARIFF SUSPENSION DATE

SPECIAL INSTRUCTIONS: S:\PSC\EAG\WP\971172.RCM

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CASE BACKGROUND

In May 1996, the Commission approved Florida Power Corporation's (FPC) experimental Real Time Pricing (RTP) Rate Schedule in Docket No. 960316-EI. Under the RTP rate, customers are provided with 24 hourly energy prices by 4:00 p.m. of the day before they are applicable. On September 5, 1997 FPC filed a petition to modify the method by which these hourly energy prices are determined.

DISCUSSION OF ISSUES

ISSUE 1: Should the Commission approve Florida Power Corporation's proposed modifications to its Real Time Pricing demonstration tariff?

RECOMMENDATION: Yes.

STAFF ANALYSIS: The existing RTP rate consists of a fixed customer charge, a fixed two-part demand charge that recovers transmission and distribution costs, and a variable energy charge. The energy charge varies hourly, and the customer is notified by 4:00 p.m. what the charge will be for each hour of the following day. The proposed change to the RTP rate affects only the manner in which

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the energy charge is determined. The remaining rates, terms, and conditions of the RTP experimental program are unchanged.

The existing hourly RTP energy charges are determined by summing the following four components:

1. A non-fuel energy charge that varies each hour based on FPC's system lambda;
2. A fuel cost recovery factor charge that varies each hour based on FPC's system lambda;
3. The Energy Conservation Cost Recovery charge applicable to the GSD-1 rate class; and
4. The Capacity Cost Recovery charge applicable to the GSD-1 rate class.

The proposed change to the RTP energy charge would modify components 1 and 2 of the rate, as discussed in the following paragraphs. Components 3 and 4, which are identical to the Energy Conservation and Capacity Cost charges that would have been paid had the customers remained on their current rate, will not change.

1. Non-Fuel Energy Charge

The existing non-fuel energy charge is designed to recover the embedded generation-related costs to serve RTP customers. It is determined by multiplying a fixed factor of 1.695 cents per kilowatt-hour (kwh) by a factor that varies each hour based on a projection of FPC's system lambda. System lambda represents the incremental cost of generating the next megawatt-hour, based on available generation and system load at any given point in time.

The fixed 1.695 cents per kwh component represents the base rate generation revenues (based on historical data) paid by those customers eligible for the RTP rate. The proposed changes do not alter the method used to set this factor; however, the factor is updated to reflect more recent historical data. The new factor, based on calendar year 1996 data, is 1.631 cents per kwh.

FPC is proposing to change the method used to determine the hourly factors that are applied to the 1.631 cents per kwh factor. Instead of the current method, which uses system lambda to shape the hourly prices, the proposed change would use system megawatt (mw) load requirements.

Under the existing RTP rate, the variable factors are a

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function of the annually updated one-year projection of FPC's hourly system lambdas. The derivation of the factors is such that the resulting RTP hourly prices will recover, on a projected basis, the total embedded production plant costs attributable to the RTP customers. The RTP rate is thus designed to be revenue neutral with respect to base rate generation costs.

Although FPC has signed RTP service agreements with three customers, it has never billed any customers under the existing RTP rate. In September 1996, before the first billing under the RTP rate, FPC's Crystal River Unit 3 nuclear plant was shut down. It is not expected to return to service until late this year. As a result, FPC's incremental costs increased significantly, the RTP hourly prices exceeded the original forecast, and FPC never commenced billing under the RTP rate.

FPC contends that the inherent difficulty in projecting system lambda makes it unsuitable to use as a determinant of energy prices under the RTP rate. FPC is proposing instead to use FPC's system load to shape the hourly RTP prices. FPC believes that the one-year projection of system load is more accurate than the projection of system lambda required under the existing rate.

The proposed rate divides FPC's system mw load into six levels, and assigns a factor to each that is applied to the fixed factor of 1.631 cents per kwh:

<u>Load</u>	<u>Factor</u>
Less than 3,000 mw	.10
Between 3,000 and 4,500 mw	.50
Between 4,500 and 6,000 mw	1.75
Between 6,000 and 7,000 mw	3.00
Between 7,000 and 7,500 mw	5.00
7,500 mw and higher	10.00

Thus, for example, during those hours when system load is projected to be between 4,500 and 6,000 mw, the non-fuel energy component of the RTP hourly energy charge would be $(1.631 \cdot .50) = .816$ cents per kwh. The factors shown above will be updated annually, based on a projection of system load for the following year. The factors will be determined in a manner that insures that the non-fuel energy component, on a projected basis, will recover the same amount of generation related revenues as the existing GSdT-1 rate. The revised rate is thus designed to be revenue neutral, as is the existing rate.

2. Fuel Cost Recovery Charge

The existing RTP energy rate contains a factor that represents the fuel costs associated with serving the customers. Like the non-fuel energy charge, this factor is also designed to vary hourly based on FPC's system lambda.

Under the proposed change, the fuel charge paid by RTP customers would no longer vary hourly, but would be the same tariffed fuel charge paid by FPC's General Service Demand Time-of-Use (GSDT-1) customers. As discussed above, FPC believes that system lambda is subject to excessive volatility, and should not be used to set the RTP energy prices.

Conclusion

The staff believes that the existing design of the RTP rate may make it unattractive to potential customers. The projection of system lambda requires the utility to estimate for each hour of the year unit availability, heat rates, system load, fuel prices, and variable O&M costs. Because of the uncertainty in projecting system lambda for a year in advance, and the resulting potential volatility in RTP energy prices, customers may be less willing to commit to the RTP experimental rate.

The proposed change to the RTP rate requires only an annual projection of system load. In addition, the fuel component of RTP customers' bills will no longer change hourly, but will be set at the otherwise applicable GSDT-1 rate. Thus under the newly designed rate only the non-fuel energy component will vary hourly, instead of both the fuel and non-fuel energy components. Staff agrees that this projection is subject to less volatility than the estimate of system lambda. These changes should make the rate more attractive to potential customers, and staff recommends that they be approved.

However, staff is concerned that the proposed changes will result in a rate which provides weaker price signals to customers. The purpose of the RTP experiment, as stated in the Commission's order approving it, is to "...evaluate customer responses to hourly energy prices." By diluting the hourly price signals, the revised RTP rate may not produce the desired shift in usage from high cost hours to lower cost hours.

FPC is not currently recovering the costs of the RTP experiment through the Energy Conservation Cost Recovery Clause, although they may at some future date seek such recovery if it can

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be demonstrated that the program provides peak demand reductions or other savings. While staff is recommending approval of the proposed changes, they also note that the revised rate may not provide sufficient price signals to achieve the desired savings to the ratepayers.

ISSUE 2: What is the appropriate effective date for the revised tariffs?

RECOMMENDATION: The appropriate effective date for the revised tariffs is November 7, 1997.

STAFF ANALYSIS: If the Commission approves the proposed tariff revisions, they should become effective November 7, 1997.

ISSUE 3: Should this docket be closed?

RECOMMENDATION: Yes. If no person whose substantial interests are affected by the Commission's order in this docket files a protest within 21 days of the issuance of the order, this docket should be closed. If a protest is timely filed, the tariff should remain in effect pending resolution of the protest.

STAFF ANALYSIS: If no person whose substantial interests are affected by the Commission's order in this docket files a protest within 21 days of the issuance of the order, this docket should be closed. If a protest is timely filed, the tariff should remain in effect pending resolution of the protest.