

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: August 2, 2007

TO: Office of Commission Clerk (Cole)

FROM: Division of Economic Regulation (Colson, Draper)
Office of the General Counsel (Fleming) *RC EPD RLT TGS*

RE: Docket No. 070376-EG – Petition for approval of residential thermostat load control pilot project by Florida Power & Light Company.

AGENDA: 08/14/07 – Regular Agenda – Tariff Filing – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: August 14, 2007 (60-Day Suspension Date)

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ECR\WP\070376.RCM.DOC

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Case Background

On June 15, 2007, Florida Power & Light Company (FPL) submitted a petition to the Commission requesting approval of its Residential Thermostat Load Control Pilot Project (TLCPP). Participating customers in the TLCPP are provided a programmable thermostat and the option of overriding FPL's control of their central air conditioning and heating appliances via telephone or the Internet.

FPL has had a residential load management program, the On-Call Program, since 1986. The residential On-Call Program is designed primarily to reduce system coincident peak demand, and it also reduces energy consumption. The On-Call Program involves the installation of load control equipment to allow FPL to control residential customer appliances on an as-needed basis. To secure the opportunity to exercise load control, FPL provides a monthly bill

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credit to On-Call Program participants. These credits, including the cost of any FPL-owned equipment, are recovered through the Energy Conservation Cost Recovery ("ECCR") clause.

On January 15, 2003, FPL petitioned for approval of modifications to the On-Call Program. In its petition, FPL requested approval to close the On-Call Program, offered under Rate Schedule RSL, to new customers effective April 1, 2003. In its place, FPL proposed a new residential load management pilot project (RLCPP), which reduced the monthly bill credits paid to program participants. The Commission approved FPL's request to close the On-Call Program and offer the RLCPP on March 6, 2003.¹

On May 31, 2007, in Docket No. 070350-EG, FPL requested that the RLCPP be made into a permanent program. The Commission will decide on FPL's request for approval for both the RLCPP and the TLCPP at the August 14, 2007 Agenda. There are approximately 742,400 participants in the combined RLCPP and closed On-Call programs.

In contrast to the existing load management programs, participants in the TLCPP will not receive monthly bill credits for permitting the utility to interrupt their heating and air conditioning. Instead, the benefits to the customer would come through using the programmable thermostat (given free to each participant) to reduce energy consumption with the assurance that they could override FPL control at their option. If approved, FPL's TLCPP will be limited to 400 residential customers located in Broward County and will last 24 months. FPL selected Broward County because they believe that this allows the evaluation of impacts under weather conditions experienced by many of FPL's customers.

The Petition also requests that the Commission authorize FPL to recover cost associated with the TLCPP through the ECCR clause. FPL's petition includes the tariffs (see Attachment 1) that are needed to implement the proposed Pilot Project.

The Commission is vested with jurisdiction over this matter pursuant to Section 366.80 – 366.82, Florida Statutes.

¹ Order No. PSC-03-03-0322-TRF-EG, in Docket No. 030051 EG, in re: Petition for modification of residential on-call program and for approval of residential load control pilot project by Florida Power & Light Company.

Discussion of Issues

Issue 1: Should the Commission approve Florida Power & Light Company's (FPL) Petition for approval of its Residential Thermostat Load Control Pilot Project (TLCPP) for an initial 24-month period and recover the requested amount of \$728,000 associated with the TLCPP through the Energy Conservation Cost Recovery (ECCR) clause?

Recommendation: Yes. If the petition is approved, FPL will perform monitoring and evaluation to determine the demand (kW) and energy (kWh) impacts of the TLCPP. FPL will also perform quality control checks to verify the reliability of communications with the thermostats. FPL will utilize the data to perform a cost effectiveness analysis at the end of the Project. Staff also recommends that FPL provide annual progress reports to the Commission by September each year. The TLCPP will take effect August 14, 2007 and will expire on August 13, 2009. (Colson)

Staff Analysis: According to the petition, FPL would like to evaluate whether the benefits of direct load control programs can be expanded through use of a new generation of communication and control technologies that put residential customers in charge of decisions that could lower energy costs. FPL believes that the TLCPP will increase the appeal of residential load management among residential customers, by removing the barrier to customers that are unwilling or reluctant to surrender control of their heating and air conditioning appliances.

According to FPL, the programmable thermostat will act as FPL's control device for the central air conditioner and heater appliances, cycling the equipment for the same percentage of time as the current interruption schedules as the RLCPP program. The TLCPP participants may combine the programmable thermostat option with water heater and/or pool pump options, receiving the RLCPP monthly bill credits associated with the latter appliances.

The TLCPP participants will not be allowed to switch to the RLCPP option, however, FPL will solicit a sample of the RLCPP air conditioning option participants, offering them the TLCPP in lieu of the RLCPP air conditioning bill credits. FPL believes that this will show the degree of the RLCPP participants interested in switching. FPL will permit a maximum of 50 customers to switch from the RLCPP option to the TLCPP during FPL's solicited switch offer.

FPL's TLCPP will be limited to 400 residential customers located in Broward County and will last 24 months. The TLCPP participants must be individually metered and the residences must have central electric air conditioners. Among the TLCPP participants, central electric space heating is eligible only in combination with central air conditioning, and when controlled by the thermostat. FPL will solicit customers in Broward County, including a sample of the RLCPP participants, and the first 400 customers that respond will be selected for the TLCPP. FPL believes that the statistical sample size of 400 participants is appropriate for this study and has a confidence level of 95%.

FPL will perform monitoring and evaluation of the TLCPP participants to determine the demand (kW) and energy (kWh) impacts of the thermostat approach vs. the RLCPP approach. Quality control checks will also be performed to verify the reliability of communications with

the thermostats. According to the petition, FPL will track all TLCPP participants using an independent database as well as its customer information system. FPL will be able to determine if the TLCPP participants choose to override the utility control of the air conditioner or heater during load control events. In addition, FPL will track customer questions and concerns related to the TLCPP, dropout rates and reason for the dropouts, and overall satisfaction. Since this is a pilot research project, a cost-effectiveness analysis is not required to approve this petition. At the end of the 24 month test period, FPL will perform a final cost-effectiveness analysis.

FPL's estimated costs of the TLCPP for the 24 month period are \$728,000, which include costs associated with marketing, equipment, installation and maintenance, computer hosting and support, and evaluation of the TLCPP. If approved, the TLCPP will take effect August 14, 2007 and will expire on August 13, 2009. The TPCPP and the RLCPP are two load management programs being offered by FPL in Broward County, the later program is also offered over FPL's entire service area. FPL will provide annual progress reports to the Commission by September each year and sent to the Director of Economic Regulation.

Conclusion

Staff believes that the TLCPP explained above may increase the appeal of residential load management among FPL's residential customers by removing the barrier to customers that are unwilling or reluctant to surrender control of their heating and air conditioning appliances. Staff also believes that the TLCPP will put FPL's residential customers in charge of decisions that could lower their energy costs and reduce FPL's system peak demand. The program is projected to reduce FPL's coincident peak load and reduce customers' energy consumption. The program can be monitored and produce measurable results. Therefore, staff recommends that the Commission approve FPL's Petition for the TLCPP, and the tariffs needed to implement the proposed Pilot program. Staff also recommends that FPL provide annual progress reports to the Commission by September each year, and be allowed to request recovery of the cost of this program, up to \$728,000, through the ECCR clause.

Docket No. 070376-EG

Date: August 2, 2007

Issue 2: Should this docket be closed?

Recommendation: Yes. If Issue 1 is approved, the tariffs should become effective August 14, 2007. If a protest is filed within 21 days of the issuance of the order, the tariffs should remain in effect with any increase held subject to refund pending resolution of the protest. If no timely protest is filed, the docket should be closed upon the issuance of a consummating order. (Fleming)

Staff Analysis: If Issue 1 is approved, the tariffs should become effective August 14, 2007. If a protest is filed within 21 days of the issuance of the order, the tariffs should remain in effect with any increase held subject to refund pending resolution of the protest. If no timely protest is filed, the docket should be closed upon the issuance of a consummating order.

FLORIDA POWER & LIGHT COMPANY

Original Sheet No. 8.221

(Continued from Sheet No. 8.220)

INTERRUPTION SCHEDULES FOR ELECTRICAL APPLIANCES

The Customer's FPL controlled appliances and Thermostat controlled appliances shall be subject to scheduled interruption by the Company only during the following periods except as noted below:

April 1 through October 31: 2 p.m. to 10 p.m.

November 1 through March 31: 5 a.m. to 11 a.m.
4 p.m. to 10 p.m.

The interruption schedules applicable for each appliance are as follows:

1. Conventional electric water heating equipment may be interrupted up to, but not to exceed, 240 minutes per day.
2. Central electric air conditioning equipment may be interrupted an accumulated total of 15 minutes during any 30 minute period with a cumulative interruption time of up to 180 minutes per day. If normal operation of the Program is not able to provide sufficient demand reduction to divert an emergency situation, central electric air conditioners may be interrupted for 17.5 minutes during any 30 minute period with a cumulative interruption time of up to 210 minutes per day.
3. Swimming pool pump equipment may be interrupted up to, but not to exceed, 240 minutes per day.
4. Central electric space heating equipment may be interrupted an accumulated total of 15 minutes during any 30 minute period with a cumulative interruption time of up to 180 minutes per day.

The limitations on interruptions of electrical equipment above, or the Thermostat Pilot Project participant's option to override FPL's interruptions of their Thermostat controlled appliances, shall not apply during emergencies on the Company's system or to interruptions caused by force majeure or other causes beyond the control of the Company.

TERM OF SERVICE

During service under this Rate Schedule, a Thermostat Pilot Project participant may change the selection of electrical appliances connected to the load management equipment, or discontinue service under this Rate Schedule, by giving the Company 7 days advance notice. If the Thermostat Pilot Project participant requests to have one or more appliances removed from participation in the RLT, the Customer will be ineligible to participate with such appliance(s) again in the RLT, or FPL's On-Call Program, for one year (12 months) from the time participation in the RLT ended. Additionally, at the sole option of the Company, the Company may recover the programmable thermostat from the Customer's premise.

SPECIAL PROVISIONS

1. The Company shall not be required to install load management equipment if the installation can not be economically justified for reasons such as: excessive installation costs, oversized/undersized heating or cooling equipment or abnormal utilization of equipment, including vacation or other limited occupancy residences.
2. Billing under this Rate Schedule will commence upon the installation and completion of required inspections of the load management equipment.
3. Multiple units of any particular appliance type must all be connected with load management equipment to qualify for the credit attributable to that appliance type. In such circumstances, only a single credit for that appliance type will be applied. Pool sweeps, when coupled with pool pumps, are included in this category.

(Continued on Sheet No. 8.222)

FLORIDA POWER & LIGHT COMPANY

**Fourth Revised Sheet No. 8.220
 Cancels Third Revised Sheet No. 8.220**

RESIDENTIAL THERMOSTAT LOAD CONTROL PILOT PROJECT

RATE SCHEDULE: RLT

AVAILABLE

Available only within the geographic areas served by the Company's Residential Thermostat Load Control Pilot Project ("Thermostat Pilot Project") and effective for a period of 24 months from the effective date of this Tariff or until modified, discontinued, or otherwise revised by the Commission. Participants in the Thermostat Pilot Project must have service characteristics (voltage, etc.) which are compatible with existing load control equipment and must receive electric service from an FPL substation which has load control equipment installed with sufficient wireless strength at the customer location to allow FPL to communicate with the programmable thermostat.

APPLICATION

To Customers receiving service under Rate Schedule RS-1 who elect to participate in the Thermostat Pilot Project and utilize central electric air conditioning and central electric space heating* appliances at the Customer's premise which, as described below, can be controlled by a programmable thermostat to override an FPL interruption ("Thermostat controlled appliances"). Additionally, the Thermostat Pilot Project participant may have one or both of the following ("FPL controlled appliances"):

1. Conventional electric water heater
2. Swimming pool pump (including pool sweeps as appropriate)

*Central electric space heating systems alone are ineligible for RLT participation. These systems are eligible for RLT participation only when central electric air conditioning is signed up for participation.

The Thermostat Pilot Project is limited to 400 customers who have chosen to receive a programmable thermostat for control of their Thermostat controlled appliances in lieu of participating in FPL's Residential On-Call Load Control Pilot Project ("On-Call") and receiving Monthly Credits for these Thermostat controlled appliances. Thermostat Pilot Project participants have the option of overriding FPL's interruption of these Thermostat controlled appliances via the phone or the Internet. Thermostat Pilot Project participants' accessibility to the Internet will also provide them the option of programming their thermostat for increased energy savings of their Thermostat controlled appliances and monitor the temperature of their homes. Prior to completion of the 24-month initial effective period for this Tariff, FPL may seek approval from the Commission for continuation of the Thermostat Pilot Project, termination of the Thermostat Pilot Project, or approval of a permanent program. At the completion of the Thermostat Pilot Project, customers who complete the Thermostat Pilot Project may retain the programmable thermostat, but will lose access to the programmable thermostat through the Internet. Thermostat Pilot Project participants shall also have the option at that time of placing their Thermostat controlled appliances under the On-Call Program and receiving applicable Monthly Credits for FPL control of their central electric air conditioning and central electric space heating appliances.

This Rate Schedule is not applicable for service to commonly-owned facilities of condominium, cooperative, or homeowners' associations.

SERVICE

The same as specified in Rate Schedule RS-1.

LIMITATION OF SERVICE

The same as specified in Rate Schedule RS-1. The Thermostat controlled appliances shall be interrupted at the option of the Thermostat Pilot Project participant as provided in the Residential Thermostat Load Control Pilot Project, by means of load management equipment installed at the Customer's premise. The FPL controlled appliances shall be interrupted at the option of the Company by means of load management equipment installed at the Customer's premise.

MONTHLY CREDIT

RLT Customers receiving service under this Rate Schedule will receive a credit on the monthly bill for the participating electrical appliances listed below as follows:

| <u>DEVICE (OPTION)</u> | <u>APPLICABILITY</u> | <u>THERMOSTAT CREDIT</u> |
|---------------------------------------|----------------------|--------------------------|
| 1. Conventional electric water heater | Year-round | \$1.50 |
| 2. Central electric air conditioning | April-October | \$0.00 |
| 3. Swimming pool pump | Year-round | \$3.00 |
| 4. Central electric space heating | November-March | \$0.00 |

Total Monthly Credit shall not exceed 40 percent of the Rate Schedule RS-1 "Base Energy Charge" actually incurred for the month (if the Budget Billing Plan is selected, actual energy charges will be utilized in the calculations, not the levelized charges) and no credit will be applied to reduce the Minimum bill specified on Rate Schedule RS-1.

(Continued on Sheet No. 8.221)

FLORIDA POWER & LIGHT COMPANY

Original Sheet No. 8.222

(Continued from Sheet No. 8.221)

4. Installation of the load management equipment at the Customer's premise is to be the sole responsibility of a licensed, independent contractor. The Customer agrees that the Company shall not be liable for any damages or injuries that may occur as a result of the interruption or restoration of electric service pursuant to the terms of this Rate Schedule.
5. The following types of water heaters are ineligible for participation in the RLT: solar water heaters, heat recovery units and heat pump water heaters.
6. If the Company determines that the Customer no longer uses one or more of the appliances signed up for RLT participation, then the Company has the right to remove the appropriate load management equipment and to discontinue the applicable credits.
7. The Customer shall give the Company and the licensed, independent contractor reasonable access for installing, maintaining, testing and removing the Company's load management equipment, and for verifying that the equipment effectively controls the Customer's appliances as intended by this Rate Schedule.
8. If the Company determines that the effect of equipment interruptions has been offset by the Customer's use of supplementary or alternative electrical equipment, then service under this Rate Schedule may be discontinued and the Customer billed for all prior Monthly Credits received under this Rate Schedule over a period not to exceed six (6) months.
9. If the Company determines that its load management equipment at the Customer's premise has been rendered ineffective by mechanical, electrical or other devices or actions ("tampering"), then the Company may discontinue the Customer's participation in the RLT and bill for all expenses involved in removal of the load management equipment, plus applicable investigative charges. The Company may rebill all prior Monthly Credits received by the Customer from an established tampering date. If such a date can not be established, then rebilling of the Monthly Credits shall be for the lesser of the number of months receiving service under this Rate Schedule or the previous twelve (12) months.