

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of Florida Power )  
& Light Company for approval of a )  
Permanent Commercial/Industrial Load )  
Control program eligible for energy )  
conservation cost recovery. )  
\_\_\_\_\_ )

DOCKET NO. 891045-EG  
ORDER NO. 22747  
ISSUED: 3-28-90

The following Commissioners participated in the disposition of this matter:

MICHAEL MCK. WILSON, Chairman  
THOMAS M. BEARD  
BETTY EASLEY  
GERALD L. GUNTER  
JOHN T. HERNDON

PROPOSED AGENCY ACTION  
ORDER APPROVING COMMERCIAL/INDUSTRIAL  
LOAD CONTROL PROGRAM

BY THE COMMISSION:

NOTICE is hereby given by the Florida Public Service Commission that the action discussed herein is preliminary in nature and will become final unless a person whose interests are adversely affected files a petition for a formal proceeding, pursuant to Rule 25-22.029, Florida Administrative Code.

On August 14, 1989, Florida Power & Light Company (FPL) filed a petition for approval of a permanent Commercial/Industrial Load Control (CILC) program eligible for energy conservation cost recovery (ECCR). The program for which FPL requested approval was a modified version of its trial CILC program which we approved on October 7, 1987, in Order No. 18259.

Under the trial program, twenty large demand customers, from the GSLD-2, GSLD-3, CS-2 and CS-3 classes, were to be recruited during the first phase. During the next twelve months, FPL planned to add some twenty-five additional

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customers from these classes. All customers participating in the load control project would be required to take service on the appropriate General Service Large Demand (GSLD) rate. In Order No. 18259 we identified the following objectives for the trial project:

- o to test if Solid State Data Receivers (GSLD billing equipment) can be successfully used for load control operations;
- o to identify market potential for the CILC program;
- o to accurately measure the KW demand savings achievable through a program of this kind; and
- o to measure payback demand (demand that comes back on the system at the conclusion of the control period) and net energy effects of a CILC program on customer usage.

Under the trial program customers committed a fixed amount of load (at least 1,000 KW) to be controlled. FPL then installed service breakers, which were controlled by FPL, at the customers' service panel. Under normal circumstances, FPL would interrupt the customers' loads during periods of emergency conditions or capacity shortages. Participating customers were normally given a minimum of four hours notice before a breaker was opened to disconnect an agreed-upon amount of load. In system emergencies, FPL could disconnect the load with only as much notice as it was possible to give, or with no notice at all if necessary to maintain system integrity or to maintain service for firm customers. GSLD-2/GSLDT-2 customers were paid \$3.40 per KW per month for the controlled load. GSLD-3/GSLDT-3 customers were paid \$3.75 per KW per month.

FPL filed no supporting documentation with its August 14, 1989, petition for approval of the permanent CILC program. Therefore, at the September 13, 1989 agenda conference we approved an extension of the trial project and ordered that all costs for the program recovered through the ECCR clause after September 30, 1989 be held subject to refund in the event the permanent program failed to meet the appropriate criteria for energy conservation cost recovery.

FPL proposes to make permanent a modified version of the trial project. Under the proposed permanent program customers will be required to sign up for an initial term of ten years and to provide five years' notice of intent to transfer from CILC to firm service. The four-hour notice to the customer by the company prior to controlling load under the trial project has been eliminated. The proposed permanent program will also eliminate any limitations on the frequency and duration of interruptions. Under the trial project there was a maximum of fifteen control periods and a four-hour duration limit on each control period.

Customers participating in the trial project have been required to allow FPL to control at least 1000 KW of the customer's load. This minimum requirement is being lowered to 500 KW in the permanent program. One other change from the trial project to the permanent program is the penalty for exceeding contracted firm demand during a load control period. Under the proposed permanent program customers will be billed for the difference between the firm on-peak demand charge and the load control on-peak demand charge for the excess KW for the prior 60 months or the number of months since the customer began CILC service, whichever is less. In addition a penalty charge of \$1.00 per KW of excess KW for each month of rebilling will be assessed. However, the penalty and rebilling will not apply if the customer subsequently adjusts his firm demand in accordance with paragraph 7 of the agreement. Under the trial project, the customers were required to pay a penalty of all excess load control demand credits they had received since beginning CILC service plus \$1.00 per KW of excess KW for each month of rebilling.

The design and level of the charges have also been changed. Under the trial project, CILC customers take service on a large demand rate schedule and receive a monthly credit of \$3.40 if taking service on GSLD-2 and \$3.75 if on GSLD-3 for each load control KW. The permanent CILC proposal has a rate structure similar to the Interruptible Service Time of Use (IST) rate schedule with (1) a maximum demand charge for distribution system costs, (2) a load control on-peak demand charge to recover transmission plant costs, (3) a firm on-peak demand charge for production plant, (4) customer and (5) energy charges. The level of the difference between firm and CILC rates for the permanent program is greater on average

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than for the trial project. The tariff sheets for the proposed permanent program are appended hereto as Attachment 1.

FPL projects a demand reduction capability of 335 MW by 1992 from CILC and IST-1 customers. The company maintains that it is virtually impossible at this point in time to project the demand reduction for the CILC program alone because the CILC program is still in a pilot mode and the interruptible rate is relatively new.

FPL has provided two basic cost-effectiveness analyses in support of its petition for approval of the permanent CILC program. The first of these is an analysis using Electric Power Research Institute's (EPRI's) Load Management Strategy Testing Model (LMSTM). Benefits over the period from 1989 through 2007 are projected to be approximately \$215 million dollars and costs over the same time frame are projected to be approximately \$158 million dollars. This yields a benefit-cost ratio of about 1.36. The second analysis uses the cost-effectiveness test specified in Rule 25-17.008, Florida Administrative Code. Under this model, benefits are approximately \$255 million dollars. Costs are again estimated at \$157 million dollars, giving a benefit-cost ratio of approximately 1.61. These differences are not considered to be significant since the algorithms of the two models are quite different.

We believe there are several errors in FPL's cost-effectiveness calculations. In both of FPL's cost-effective analyses, the expected or estimated reduction in coincident peak demand is based on the load research data for all general service large demand customers, and not on the relationship between the actual demands of the CILC customers during load control periods and matching days. We believe that the actual data should be used and the coincident demand reduction calculated as we stated in Order No. 18259:

The solid state data recorders can measure demand during any time period. Therefore, measurements on load control days can be matched with demand data on similar weather days to determine how much coincident load is being reduced due to the program. Moreover, the devices are already installed

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as billing devices for the customers recruited for the program.

Furthermore, as we stated in Order No. 18259 one of the objectives of the trial program is to measure accurately the KW demand savings achievable through a program of this kind.

Our Order (No. 18259) requires the use of the data from the trial project to calculate demand reductions. The use of load data for all general service large demand customers overestimates the coincident peak demand reductions from the CILC program. This is because the general service large demand customers as a group are more peak intensive or use a larger proportion of their electric requirements during peak hours than the customers on the CILC program. The company in an October 27, 1989 written response to a staff inquiry stated that the participants in the trial project are industrial customers, whose load shapes are not affected by weather (except one hospital, which was the smallest customer in the trial). Thus the use of the load data for all general service demand customers overestimates coincident peak reductions for the CILC customers.

A second problem with FPL's cost effectiveness analysis is their calculation of the program cost for the incentive received by the customer for his participation in the program. The incentive should be the difference between what the customer would pay on the otherwise applicable firm rate and the CILC program. The company has subtracted or excluded the curtailment credits in the calculation of the incentive. CILC load provides all of the benefits provided by curtailable load as well as additional benefits. By not including the curtailable credits as part of the customer incentive program cost FPL has double-counted the benefits.

FPL previously recognized this principle in its filing of its CILC trial project. The company offered the CILC credit only to customers paying firm GSLD/GLSDT rates. Curtailable service customers could not get the current curtailment credit plus the CILC credit but had to transfer to the firm rate to get the CILC credit. Also, the company used the full CILC credit in the cost-effectiveness analysis for the trial project; it did not subtract the curtailment credit from the

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CILC credit in the calculation of the customer incentive program cost.

The company has also incorrectly assumed that participation in the program and interruptible service will be proportional to each general service large demand and curtailable service rate classes' 12 CP (coincident peak) demand at generation. Current participation is quite different from this assumption.

Attachment 2 is a staff-prepared summary cost analysis for the CILC program which corrects the aforementioned problems. The demand reduction at generation (column (2)) was calculated using the average coincident peak reductions during 10 months of the experimental period for CILC customers expected to remain on the program. The average coincident peak reductions are based on the difference between the average KW demand during the load control period and the average KW demand during the same hours on the matching day, adjusted for losses. Column 3, the incentive, represents the difference between firm and CILC rates for the billing determinants of those customers expected to remain on the CILC program.

Attachment 3 is a summary benefit analysis for the CILC program based on our cost-effectiveness test. The benefits include avoided generating unit fixed and variable costs as well as fuel savings from the program. The unit that is being avoided is a 1992 combined cycle plant valued at \$533 per kilowatt in 1989 dollars. Since this plant would have displaced a less efficient plant had it been built, the benefits shown on Attachment 3 have been appropriately decreased by the figures shown in column (6).

Using the benefits of approximately \$255 million dollars from the PSC cost-effectiveness test, the benefit-cost ratio of this analysis is approximately 1.27.

One of the purposes of the trial project was to determine whether or not the CILC program would yield KWH savings. FPL has not provided any information in this regard. In the analyses mentioned above, it has been assumed that each customer would be controlled for 200 hours each year. However, it is not known whether some or all of this energy would be made up during non-control periods. If all of the energy is made up, revenue losses would be smaller by about 22

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million dollars. But, on the benefit side, program fuel savings would also drop by a like amount. In that case the program would still be cost effective.

Since it is difficult at this time to project the participation rate for the CILC program alone, the cost-effectiveness analysis includes the effects of customers on both interruptible and CILC rates. As mentioned previously, this is because the program is in a pilot state. Potential customers did not know whether a permanent program would be approved, and, if approved, what its terms and conditions would be. Also, since the interruptible rate is relatively new, customers are not sure whether they prefer to participate in the CILC program or be on the interruptible rate. In this situation, it will be important to allocate only those costs directly attributable to the CILC program for conservation cost recovery purposes.

Furthermore, \$1.70 per KW of load control credit for former curtailable service (CS) customers should not be recovered through ECCR. As we stated in Order No. 18259, "the base rates of all classes being recruited for the program have been designed in rate cases to recover the \$1.70 per KW curtailment credit. To allow recovery of the full load control credit through ECCR for former CS customers would therefore result in double recovery of the \$1.70 per KW."

After the permanent program has been in place for one year, the company should be able to make reasonable projections about CILC program participation rates and refined estimates of demand savings. At that time, the company shall file an updated cost-effectiveness analysis for the CILC program alone. An updated cost-effectiveness analysis is important also because the required load under control has been reduced from 1000 KW to 500 KW, which could negatively impact the cost effectiveness of the program if smaller customers with different load characteristics begin taking service on the CILC program. As with any conservation program that has been approved for ECCR, our staff will periodically monitor the cost-effectiveness as well as other aspects of the CILC program.

Furthermore, the Company, in filing its FEECA reports pursuant to Rule 25-17.005(6), Florida Administrative Code, shall include activity in signing up customers for

interruptible rates in addition to the activity in the CILC program. Costs should be reported separately for each using the approved allocation method. This information will be used to monitor the demand savings achieved by each program.

As a further condition to our approval of the permanent CILC program we require that the Company file a semi-annual monitoring report on the transferring of load controlled under the CILC program to firm demand or firm or curtailable service. The report should include the following data by customer: (a) total load transferred; (b) percentage the transferred load is of the total load under control by this program; (c) rebilling penalty; and (d) if the customer was not rebilled, justification of why the customer was not rebilled.

In order to avoid a lapse in the current CILC service being offered under the trial program, the trial CILC program will be extended until such time as the permanent program rate schedule becomes effective. In the event that this order is protested, the existing trial CILC program will remain effective until a final decision is made.

In consideration of the foregoing, it is

ORDERED that Florida Power and Light Company's petition for approval of a permanent Commercial/Industrial Load Control Program is hereby partially granted, as follows:

1. At the end of the first year of the permanent program, FPL will make projections of future participation in the CILC program which should not include Interruptible Service (IST-1) customers. Projections of contracted firm load, controllable load and coincident peak hour load shall be included. A cost-effectiveness analysis shall also be provided to Staff for the CILC program, looking forward over the planning horizon of the utility with base year 1991;
2. The expenses to be recovered through the Energy Conservation Cost Recovery Proceeding (ECCR) will be only those dollars directly attributable to the CILC program. As



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required by Order No. 18259 at page 4, \$1.70 of load control credit for former curtailable service (CS) customers shall not be recovered through ECCR until the conclusion of the company's next rate case because it is being recovered through the base rates of all classes;

3. The FEECA reports required by Rule 25-17.005(6), Florida Administrative Code, should provide data separately for the CILC program and for IST-1 customers with appropriate allocation of the costs; and
4. The company shall file reports every six months on any load that is transferred from load control to firm demand, firm or curtailable service.

It is further

ORDERED that Florida Power & Light Company's trial Commercial/Industrial Load Control Program is hereby extended until such time as the permanent Commercial/Industrial Load Control Project proposed herein becomes effective or in the event that this Order is protested, until final resolution of this docket is rendered.

BY ORDER of the Florida Public Service Commission,  
this 28th day of MARCH, 1990.

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STEVE TRIBBLE, Director  
Division of Records and Reporting

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by: Kay Flynn  
Chief, Bureau of Records

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders