

FLORIDA PUBLIC SERVICE COMMISSION
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M E M O R A N D U M

April 24, 1997

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

FROM: DIVISION OF ELECTRIC & GAS (HARLOW) *JDH JPS*
DIVISION OF LEGAL SERVICES (WAGNER) *RUE LW RJ JDJ*

RE: DOCKET NO. 970056-EG, PETITION FOR APPROVAL OF REVISED PROGRAM PARTICIPATION STANDARDS FOR THE RESIDENTIAL HOME ENERGY IMPROVEMENT AND RESIDENTIAL NEW CONSTRUCTION PROGRAMS BY FLORIDA POWER COMPANY

AGENDA: 5/6/97 - REGULAR AGENDA - PROPOSED AGENCY ACTION - INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: NONE

SPECIAL INSTRUCTIONS: S:\PSC\EAG\WP\970056.BCM

CASE BACKGROUND

The Florida Energy Efficiency and Conservation Act (FEECA), Sections 366.80 - 366.85, Florida Statutes, requires the Commission to adopt goals to reduce and control the growth rates of electric consumption and weather-sensitive peak demand. In Order No. PSC-94-1313-FOF-EG issued October 25, 1994, the Commission set numeric demand-side management (DSM) goals for Florida Power Corporation (FPC). The Commission approved FPC's DSM Plan, designed to meet these goals, in Order No. PSC-95-0691-FOF-EI. The plan consisted of four residential programs, nine commercial and industrial programs and one research and development program. Taken together, the Residential Home Energy Improvement (RHEI) and Residential New Construction (RNC) programs were estimated to provide a 34 percent contribution to FPC's summer demand reduction goal and an 82 percent contribution to FPC's energy reduction goal for residential customers.

The RHEI program is an umbrella efficiency program for existing homes which promotes thermal envelope efficiency

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improvements and the installation of upgraded equipment and appliances. The RHEI program provides incentives for ceiling insulation upgrades, duct leakage test and repair, high efficiency electric heat pumps, and high efficiency alternate electric water heating. The RNC program promotes energy efficient new home construction by providing education and advice to home builders and contractors on energy related issues. The RNC program also provides incentives for the installation of more efficient electric heat pumps and alternate electric water heating units, as well as for preferred duct design and attic insulation.

On January 9, 1997, FPC filed a petition for approval of revised program participation standards and incentive levels for the RHEI and RNC programs. On March 28, 1997, FPC filed an amended petition in this docket. In the amended petition, FPC added language which addressed the concerns of staff on several issues. In addition, FPC added duct repair incentives for multi-family homes to the RHEI program.

Changes to program standards which conform to the original program approved by the Commission are normally administratively approved by staff. However, FPC agrees with staff that because the proposed revisions to the RHEI and RNC program participation standards affect the programs' cost-effectiveness, it is appropriate for the Commission to approve the revisions. FPC requests that the proposed program revisions be approved by the Commission, including recovery of reasonable and prudent expenditures.

DISCUSSION OF ISSUES

ISSUE 1: Should the Commission approve Florida Power Corporation's (FPC's) revised program participation standards for the Residential Home Energy Improvement (RHEI) program?

RECOMMENDATION: Yes. The proposed program revisions are expected to increase program participation, reduce unnecessary costs for contractors and meet the criteria established for DSM program approval by the Commission in Order No. 23560. The program as modified is cost effective, directly monitorable, and advances the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and the Florida Energy Efficiency and Conservation Act (FEECA) Sections 366.80 through 366.85, Florida Statutes.

STAFF ANALYSIS: A discussion of the proposed revisions to the RHEI program follows.

1) The level of the incentive paid for the installation of a heat pump will be a function of the type of heating ventilation and air conditioning (HVAC) system being replaced and the efficiency level of the new heat pump, rather than solely based on the efficiency level of the new heat pump. The proposed incentive levels are higher if a high efficiency heat pump replaces a resistance heat system, than if an existing heat pump is replaced. Recent contractor and customer surveys performed by FPC have indicated that when a higher incentive is offered for replacing a heat resistance system with a high efficiency heat pump, greater customer participation will result along with higher demand and energy savings per participant. Offering a higher incentive for replacing a heat resistance system with a heat pump will result in greater demand and energy savings and therefore is consistent with the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and FEECA.

2) The incentive paid for the installation of a heat pump will be paid directly to the consumer in the form of a check or a credit to the customer's bill, rather than to the contractor. FPC expects this change to increase customer participation and resolve a cash flow problem which has been experienced by small contractors. However, it is difficult to predict whether paying the incentive directly to the customer will result in increased participation. This modification does not affect the cost effectiveness of the

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program and is therefore an example of a modification which is typically administratively approved by staff.

3) Each contractor will be paid a maximum of \$25 per customer account for completing the necessary paperwork on eligible installations. It is appropriate to compensate HVAC contractors for completing the necessary paperwork and a maximum payment of \$25 appears reasonable. The \$25 payment to contractors was appropriately included in FPC's cost effectiveness analysis.

4) Contractors will no longer be required to do a Manual J calculation on HVAC equipment unless the HVAC equipment exceeds approximately one ton per 500 square feet of conditioned area. A Manual J calculation is performed to determine whether the size of the HVAC equipment is appropriate for the conditioned area. In FPC's original proposed changes to the RHEI program, the Manual J calculation for HVAC equipment was deleted, with no substitute HVAC sizing requirement. In order to address staff's concerns, FPC has filed an amended petition which added language requiring the Manual J calculation if the HVAC equipment appears oversized for the square footage of conditioned area. While HVAC equipment which is one ton per 500 square feet of conditioned area may be oversized for today's new houses, this is an acceptable criteria for existing homes.

5) The duct leakage repair incentive will be expanded to include multi-family homes. FPC's original program standards omitted duct leakage repair on multi-family homes because of health and safety concerns and the difficulty of doing a blower door test on multi-family units. FPC has subsequently learned that multi-family duct repair programs are being performed successfully by other utilities with no resulting health or safety problems. FPC has also resolved the blower door testing issue by locating a contractor who will repair all ducts for \$100 per unit on multi-family homes. This removes the need for a blower door test. FPC's \$100 incentive will therefore cover all costs. FPC has appropriately included the costs and benefits of the multi-family duct repair incentive in the cost effectiveness tests for the RHEI program. Staff recommends Commission approval of this change because offering the program to multi-family homes will increase program participation. Offering an incentive which covers all repair costs will encourage landlords who are not responsible for electric bills to participate in the program.

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FPC has determined the cost effectiveness of the revised RHEI program as follows:

Rate Impact Measure Test:	1.43
Participant Cost Test:	2.10
Total Resource Cost Test:	2.55

As originally filed, the RHEI program had a RIM test value of 1.39. Staff recommends approval because the proposed program revisions are expected to increase program participation, reduce unnecessary costs for contractors and meet all the criteria established for DSM program approval by the Commission in Order No. 23560. The program as modified is cost effective, directly monitorable, and advances the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and FEECA.

ISSUE 2: Should the Commission approve Florida Power Corporation's (FPC's) revised program participation standards for the Residential New Construction (RNC) program?

RECOMMENDATION: Yes. The program as modified is cost effective, directly monitorable, and advances the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and FEECA. While the benefit/cost ratio of this program is marginal, with a RIM value of 1.09, FPC's requirement that Level Two incentives will be paid only if a commensurate reduction in the Energy Performance Index (EPI) results will reduce the risk that incentives will be paid when demand and energy savings may not materialize.

STAFF ANALYSIS: A discussion of the proposed revisions to the RNC program follows.

1) The RNC program currently provides three tiers of incentives. Level One provides a free educational duct test for contractors. Level Two is a \$100 incentive for a heat pump, plus a specified duct design or insulation upgrade. Level Three provides incentives ranging from \$200 to \$500 for the Level Two requirements plus the installation of heat pumps with specified efficiency levels, and a dedicated heat pump water heater, and an incentive for cooperative advertising for the home.

FPC has proposed revisions to these incentive levels. Under the proposed revisions, Level One remains the same. The Level Two incentives have been combined with the Level Three to form the new Level Two which provides monetary incentives of \$100 to \$500 depending on the number and efficiency level of the mechanical equipment installed. In response to concerns of staff, FPC has added language which requires that Level Two incentives will be paid only if a commensurate reduction in the Energy Performance Index (EPI) results from the installation of the mechanical equipment. In order to pass code, the thermal efficiency of new Florida home must meet a maximum 100 EPI rating. The proposed change will prevent a contractor from receiving an incentive to install a higher efficiency heat pump, while making other changes to the home which lower the home's thermal performance, but make the home more attractive for potential buyers. For example, adding additional window space makes the home more attractive, but can substantially reduce the thermal efficiency of the home. The requirement that a commensurate reduction in the EPI occur before Level Two incentives are awarded is therefore expected to reduce

the risk that incentives will be paid when the expected demand and energy savings may not materialize.

The proposed Level Three requires that the home be at least 30 percent more energy efficient than the Council of American Building Officials (CABO) 1993 Model Energy Code (MEC). A contractor who meets this standard for a home will receive the Level Two incentives for mechanical equipment plus FPC will match on a 50/50 basis up to \$50 for cooperative advertising for the home. Comparing the thermal efficiency of the home to the CABO 1993 MEC, rather than the Florida code, will allow FPC to participate in the United States Environmental Protection Agency's Energy Star Program. The proposed Level Three incorporates the requirements of the Energy Star Program, which will allow homes to be advertised as Energy Star homes. FPC provided staff with a comparison of the CABO 1993 MEC to the Florida EPI standard. According to FPC's calculations, a new home which is 30 percent more efficient than the CABO 1993 MEC standard is 20 to 25 percent more efficient than the Florida EPI standard. Therefore, FPC's request to tie the Level Three incentive to the CABO 1993 MEC is appropriate.

2) The efficiency levels of heat pumps required to earn specified incentives have been changed. FPC has provided documentation which shows that very few heat pump models were available with the efficiency levels required by the original program standards. According to FPC, this substantially reduced participation levels. In order to increase participation levels, FPC has proposed efficiency levels for heat pumps which more closely match the models currently available on the market. Given the documentation provided by FPC, staff recommends that these changes are appropriate.

3) FPC has also deleted the requirement that limited the heat pump size to the larger of 15 percent above the design criteria or 6,000 BTUh. FPC believes that this requirement is not needed. The Florida State Energy Code for New Construction deals with sizing of equipment and it is by law the responsibility of local building officials to ensure that HVAC equipment is not oversized.

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FPC has determined the cost effectiveness of the revised RNC program as follows:

Rate Impact Measure Test:	1.09
Participant Cost Test:	1.34
Total Resource Cost Test:	1.42

As originally filed, the RNC program had a RIM test value of 1.6. The reduction in RIM from 1.6 to 1.09 appears to be primarily a result of FPC's reduction in avoided cost. Theoretically, a program which passes the RIM test with a value greater than 1.0 is considered cost effective and will reduce rates for all customers from what they otherwise would have been. However, with a RIM value of 1.09, there is little room for error in avoided cost or demand reduction estimations for the RNC program. In order to reduce the risk that non-participating customers will not benefit from the program, it may be appropriate to allocate the costs of the program to residential customers. The Commission has opened Docket No. 970046-EI in order to investigate the appropriateness of allocating the costs of DSM programs to the rate classes eligible to participate in such programs.

Staff recommends approval of the proposed revisions to the RNC program. The program as modified is cost effective, directly monitorable, and advances the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and FEECA. While the benefit/cost ratio of this program is marginal, with a RIM value of 1.09, FPC's requirement that Level Two incentives will be paid only if a commensurate reduction in the Energy Performance Index (EPI) results will reduce the risk that incentives will be paid when demand and energy savings may not materialize.