

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: January 26, 2006

TO: Director, Division of the Commission Clerk & Administrative Services (Bayó)

FROM: Division of Economic Regulation (McRoy, Haff)
Office of the General Counsel (Brown)

RE: Docket No. 050876-EG – Petition for approval of modifications to residential heating and cooling and new construction programs, by Tampa Electric Company.

AGENDA: 02/07/06 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Arriaga

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ECR\WP\050876.RCM.DOC

Case Background

As part of its Commission-approved Demand-Side Management (DSM) Plan, Tampa Electric Company (TECO) offers a Residential Heating and Cooling and a Residential New Construction program. The programs provide information, education and advice to homeowners, home builders and contractors on energy-related issues and efficiency measures. The Residential Heating and Cooling program promotes the replacement of resistance heat and old heat pumps with new energy-efficient heat pumps. TECO also provides incentives of up to \$250 dollars to be paid to the contractor performing the work. The New Construction program promotes duct sealing measures, insulation, and energy-efficient electric heat pumps.

On November 16, 2005, TECO petitioned the Commission for approval of modifications to its Residential Heating and Cooling and Residential New Construction programs. For the Residential Heating and Cooling program, TECO aimed at reducing the growth of peak demand and energy through the replacement of two types of equipment. Type one is described as a heat pump replacing resistance heat, and type two is described as a heat pump replacing a heat pump. Both types have a threshold for qualification, and TECO has a rebate for the program which is paid to the contractor performing the installation. TECO's Residential New Construction program is a conservation program designed to reduce the growth of peak demand and energy in the residential new construction market through the installation of high efficiency equipment and building envelope options. The program utilizes incentives to encourage the construction of new homes to be above the minimum energy efficiency levels required in the State of Florida Energy Efficiency Code for New Construction. Currently, TECO's minimum efficiency threshold for Heating, Ventilation and Air Conditioning (HVAC) equipment in both programs is a Seasonal Energy Efficiency Rating (SEER) value of 12.0. The federal manufacturing efficiency standard effective January 23, 2006, will increase the minimum SEER value of equipment available in the marketplace to 13.0. To keep pace with federal standards and to continue encouraging customers to cost-effectively invest in HVAC equipment with efficiencies greater than federal or state guidelines, TECO wants to increase the minimum equipment efficiency threshold for participation in its two programs to a SEER value of 14.0.

This recommendation addresses TECO's petition to modify its residential Heating and Cooling and Residential New Construction programs. The Commission has jurisdiction over this matter pursuant to Sections 366.81 and 366.82, Florida Statutes.

Discussion of Issues

Issue 1: Should the Commission approve TECO's petition to modify its Residential Heating and cooling and Residential New construction programs?

Recommendation: Yes. TECO's proposed changes to its Residential Heating and Cooling and Residential New Construction programs are expected to continue to meet the policy objectives of the Florida Energy Efficiency and Conservation Act (FEECA), and will continue to be monitorable and cost-effective. (McRoy, Haff)

Staff Analysis: TECO has offered its Residential Heating and Cooling program since January 1981 and its residential new construction program since July 2000. During that time, program modifications to the Residential Heating and Cooling program have been approved by the Commission to accommodate market needs and changing manufacturing conditions. Both programs were approved by the Commission as an integral component of the company's 2005-2014 Ten Year Demand Side Management ("DSM") Plan in Docket No. 040033-EG, Order No. PSC-05-0181-PAA-EG, issued February 16, 2005. The Residential Heating and Cooling program utilizes a rebate to encourage customers to install high efficiency HVAC systems in existing single family detached dwellings. The Residential New Construction Program utilizes incentives to encourage the installation of high efficiency HVAC equipment and other construction practices that exceed the Florida Building Code requirements for new single family detached dwellings.

When the Commission reviews conservation programs, it considers three criteria:

- Whether the program advances the policy objectives of Rule 25-17.001, Florida Administrative Code, and Sections 366.80-85, Florida Statutes, also known as the "Florida Energy Efficiency and Conservation Act" (FEECA) ;
- Whether the program is directly monitorable and yields measurable results; and
- Whether the program is cost-effective.

Currently, the minimum efficiency threshold for HVAC equipment in both of TECO's programs is a SEER value of 12.0. To keep pace with federal standards which will increase the minimum SEER value available in the marketplace to 13.0, TECO is requesting to increase the minimum equipment efficiency threshold for participation in these two programs to a SEER value of 14.0. TECO's Residential Heating and Cooling and Residential New Construction programs, as modified, will allow TECO to continue to achieve the goals of FEECA. As shown in Attachment A of this recommendation, the proposed modifications to the Residential Heating and Cooling program are expected to increase demand and energy savings. For customers with existing strip heat systems, per-customer savings are forecasted to be 2.54 kW winter peak demand, 0.15 kW summer peak demand, and 1,347 kWh of annual energy consumption. For customers with existing heat pump systems, per-customer savings are forecasted to be 0.10 kW winter peak demand, 0.15 kW summer peak demand, and 511 kWh of annual energy consumption.

Attachment B of this recommendation shows the proposed modifications to the Residential New Construction program. The incremental savings associated with the new heat pump requirement for both the Residential Heating and Cooling and Residential New Construction programs are .10 kW winter and .15 kW summer demand. The Residential New Construction program has 4 levels of participation with corresponding projected efficiency savings. Level one includes adding additional duct taping to meet TECO's allowable duct leakage standard. Level two, includes meeting level one requirements plus adding a minimum 14.0 SEER heat pump. Level three includes meeting level one and two requirements plus installing R-30 ceiling insulation. Finally, level four includes meeting level one, two and three requirements plus the installation of a heat recovery unit or a heat pump water heater. The demand and energy savings will vary depending on which level of participation the customer chooses. For customers with electric heating systems, per-customer savings are forecasted to range from a level one of 0.278 kW to a level four of 0.467 kW winter peak demand, and from a level one of 0.341 kW to a level four of 0.750 kW summer peak demand. The annual energy consumption range for these customers range from a level one of 691 kWh to a level four of 1,850 kWh. Combined with forecasted increases in customer participation, the program is expected to decrease overall peak demand and energy usage on TECO's system.

TECO's Residential Heating and Cooling and Residential New Construction programs, as modified, allow for direct monitoring and will continue to yield measurable results. TECO's programs as modified are cost-effective. The increase in the minimum SEER rating for heat pumps is expected to increase the program's cost-effectiveness, and TECO forecasts a benefit-cost ratio under the RIM test of 1.09 for the Residential Heating and Cooling and 1.24 for the Residential New Construction programs respectively. This means that, for participants and non-participants alike, the Residential Heating and Cooling and Residential New Construction programs are expected to be less costly than TECO's next identified power plant, a 180 MW combustion turbine scheduled for 2009. TECO's modified Residential Heating and Cooling and Residential New Construction programs are expected to continue to meet the policy objectives of FEECA, to continue to be monitorable and to continue to be cost-effective. Staff recommends that the Commission approve TECO's petition to modify its Residential Heating and Cooling and Residential New Construction programs.

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Issue 2: Should this docket be closed?

Recommendation: If no person whose substantial interests are affected by the proposed agency action files a protest within 21 days of the issuance of the order, this docket should be closed upon the issuance of a consummating order. (M. Brown)

Staff Analysis: At the conclusion of the protest period, if no protest is filed, this docket should be closed upon the issuance of a consummating order.