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# Public Service Commission

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COMMISSION  
CLERK

**-M-E-M-O-R-A-N-D-U-M-**

**DATE:** January 20, 2005

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

**FROM:** Division of Economic Regulation (Haff, Colson, Sickel, Wheeler) RC JTB  
Office of the General Counsel (Vining) AEW nat DW

**RE:** Docket No. 040033-EG – Petition for approval of numeric conservation goals by Tampa Electric Company.

**AGENDA:** 02/01/05 – Proposed Agency Action – Tariff Filing – Interested Persons May Participate

**CRITICAL DATES:** None

**SPECIAL INSTRUCTIONS:** None

**FILE NAME AND LOCATION:** S:\PSC\ECR\WP\040033-B.RCM.DOC

### Case Background

Sections 366.80-366.85 and 403.519, Florida Statutes, are known as the Florida Energy Efficiency and Conservation Act (FEECA). As part of FEECA, Section 366.82, Florida Statutes, requires the Commission to adopt goals to increase the efficiency of energy consumption, increase the development of cogeneration, and reduce and control the growth rates of electric consumption and weather-sensitive peak demand. Pursuant to Section 366.82(2), Florida Statutes, the Commission must review a utility's conservation goals not less than every five years. These statutes are implemented by Rules 25-17.001 and 25-17.0021, Florida Administrative Code.

The instant docket was opened on January 13, 2004, to address the numeric conservation goals for Tampa Electric Company (TECO). The Commission established numeric conservation goals for TECO in Order No. PSC-04-0765-PAA-EG, issued August 9, 2004.

Rule 25-17.0021(4), Florida Administrative Code, requires that, within 90 days of a final order establishing goals, a utility shall submit a demand-side management (DSM) plan which

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contains conservation and DSM programs designed to meet its numeric goals. TECO timely filed its DSM Plan on November 16, 2004. By letter dated January 3, 2005, TECO voluntarily waived the 60-day time clock for suspension of the proposed tariff sheets associated with TECO's DSM Plan.

This recommendation addresses TECO's petition for approval of its DSM Plan and the proposed tariff sheets associated with the DSM Plan. 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 Tampa Electric Company's 2005-2014 Demand-Side Management Plan and associated tariff sheets, including approval for cost recovery?

**Recommendation:** Yes, except for the continuation of the existing Prime Time residential load management program because it is no longer cost-effective. Staff recommends that TECO allow existing Prime Time participants to stay on the program but discontinue the program for new participants. All other programs contained in TECO's DSM Plan meet the policy objectives of Rule 25-17.001, Florida Administrative Code, and FEECA. Consistent with past Commission practice, staff should be allowed to administratively approve the program participation standards at a later date if TECO's DSM Plan is approved. (Haff, Colson, Sickel, Wheeler)

**Staff Analysis:** TECO's DSM Plan contains nine residential programs, including a price-responsive load management pilot program, eight commercial and industrial (C/I) programs, a cogeneration program, a research and development program, and a renewable energy pilot program. These programs are summarized in Attachment A. Tables illustrating each DSM program's projected demand and energy savings and contribution towards TECO's numeric conservation goals are also included in Attachment A. Demand and energy savings from TECO's DSM Plan are expected to meet or exceed TECO's summer demand, winter demand, and energy savings goals for both the residential and commercial/industrial segments.

Pursuant to Order No. 22176, issued November 14, 1989 in Docket No. 890737-PU, In Re: Implementation of Section 366.80-.85, F.S., Conservation Activities of Electric and Natural Gas Utilities, the Commission stated that conservation programs will be evaluated using the following criteria:

- Whether the program advances the policy objectives of Rule 25-17.001, Florida Administrative Code, and Sections 366.80 through 366.85, 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.

Eight of TECO's nine residential DSM programs are existing programs. One of the existing programs, the On-Line Residential Energy Audit, replaced the old mail-in audit and was approved by the Commission subsequent to approval of TECO's current DSM Plan in 2000. Another existing program, the Residential Heating and Cooling Program, has been modified to ensure continued cost-effectiveness. The only new residential DSM program proposed by TECO is a Residential Price Responsive Load Management Pilot program (RSVP-1 tariff). Under this program, TECO uses a multi-tiered rate structure and price signals to alert participating customers to reduce load and energy consumption during high-cost periods. The pilot program provides customers with a "smart" thermostat which can be programmed to switch controlled equipment on or off, or automatically change the temperature setting. Customers can also manually adjust the smart thermostat in response to either the multi-tiered rates or critical price signals.

TECO's DSM Plan also contains the existing Residential Load Management program, known as Prime Time (RSL-3 tariff). Under this voluntary load control program, TECO reduces peak demand by interrupting electric service to water heaters, pool pumps, and central electric heating and air conditioning units. The monthly bill credit for central heating and cooling appliances is \$12.00 per month for a continuous 3-hour interruption and \$6.00 per month for summer cycle interruption. Water heater and swimming pool pump monthly credits are \$4.00 and \$3.00, respectively. The Prime Time program is no longer cost-effective because it has a benefit-cost ratio of 0.74 under the rate impact measure (RIM) test. TECO wants to continue offering the Prime Time program while it evaluates the Price Responsive Load Management Pilot program. TECO no longer plans to market the Prime Time program, and TECO does not apply the demand and energy savings impacts of the program towards its Commission-authorized numeric conservation goals. TECO expects a net loss of approximately 60-70 customers per month because program attrition would offset any new customer sign-ups. If no new customers are allowed to sign up for the Prime Time program, attrition is expected to result in net losses of approximately 120 participants per month.

Because the Prime Time load management program is no longer cost-effective, non-participating customers will continue to pay a subsidy to program participants if the program is allowed to continue. For this reason, staff recommends that TECO close the program to new participants but allow current participants to continue on the program. Discontinuing the Prime Time program for new customers will allow attrition to occur more rapidly, resulting in less of a subsidy paid by non-participants. This treatment is consistent with past action taken by the Commission on Progress Energy Florida's Residential and Commercial Energy Management programs, which were last modified in 2000 to ensure cost-effectiveness. See Order No. PSC-00-0750-PAA-EG, issued April 17, 2000, in Docket No. 991789-EG, In Re: Approval of Demand-Side Management Plan of Florida Power Corporation. In that Order, the Commission made the following statement regarding PEF's energy management programs:

FPC's plan also contains substantial changes to the Residential Energy Management Program (RSL-1 tariff) and Commercial Energy Management Program (GSLM-1 tariff). Due to declining cost-effectiveness, these year-round load control programs will no longer be available to new customers. Existing customers can continue to receive monthly credits for year-round interruptions as long as no changes occur to the appliances being controlled or to the interruption schedule. Future residential and small commercial customers can participate in FPC's Winter-Only Energy Management Program (RSL-2 tariff), which provides for direct load control of electric water heating and central electric heating appliances between November and March.

All eight of TECO's C/I DSM programs are existing programs approved by the Commission as part of TECO's current DSM Plan in 2000. All C/I DSM programs remain unchanged from that time. TECO's Cogeneration program is essentially unchanged from what was approved by the Commission in 1995 and again in 2000. This program allows TECO to meet its obligations under Section 366.051, Florida Statutes, and Chapter 25-17, Florida Administrative Code, regarding the purchase of as-available energy and firm capacity and energy

from qualifying facilities. Under the program, TECO develops standard offer contracts and administers existing standard offer and negotiated contracts.

TECO's Conservation Research and Development (CRD) program is essentially unchanged from what was approved by the Commission in 1995 and again in 2000. Under this program, TECO will research, develop, and demonstrate potential cost-effective DSM programs. Program expenses are estimated to be \$100,000 per year. Annual expenses may exceed \$100,000; however, the program has a five-year cap of \$500,000. TECO does not apply any kW and kWh savings from the CRD program toward its numeric conservation goals. If a promising DSM program results from TECO's research efforts, the program would be incorporated into the DSM Plan and its kW and kWh savings would be applied toward the goals. Technologies eligible for study under the CRD program include: renewable and green energy sources, energy-efficient construction, heat recovery, space conditioning and ventilation, refrigeration, cooking, fuel cells, pump and fan efficiency, thermal energy storage, and water heating.

Subsequent to approval of TECO's current DSM Plan, the Commission approved TECO's Green Energy Rate Rider Pilot program in 2000 and extended the program in 2004. See Order No. PSC-04-0386-TRF-EI, issued April 8, 2004, in Docket No. 030959-EI, In Re: Petition by Tampa Electric Company for approval of extension of Pilot Green Energy Rate Rider and Program through December 2006. This pilot program allows residential or commercial customers to purchase unlimited 100 kWh blocks of renewable energy for \$5 per block.

In total, TECO's DSM programs are designed to minimize free riders, minimize rate impacts, and meet the Commission-prescribed conservation goals. The programs contained in TECO's DSM plan appear to meet the policy objectives of Rule 25-17.001, Florida Administrative Code, and FEECA. TECO's measurement plan to evaluate assumed demand and energy savings for each program appears reasonable. With the exception of the existing Prime Time residential load management program, each program included in TECO's DSM plan is cost-effective under the RIM, Total Resource Cost (TRC), and Participant tests. However, it must be emphasized that staff is not addressing the prudence of expenditures for the programs contained in TECO's DSM plan; such a review is performed annually in the Energy Conservation Cost Recovery Clause docket.

TECO's DSM plan includes program standards which clearly state the requirements for participation in each program, customer eligibility requirements, details on how rebates or incentives will be processed, technical specifications on equipment eligibility, and necessary reporting requirements. In the past, the Commission has allowed the staff to administratively approve program participation standards if they conform to the description of the programs contained in a utility's DSM Plan. Staff recommends that it be allowed to administratively approve TECO's program participation standards at a later date if TECO's DSM Plan is approved.

Except for the continuation of the existing Prime Time residential load management program, staff believes that the programs contained in TECO's DSM Plan meet the policy objectives of Rule 25-17.001, Florida Administrative Code, and FEECA. With that exception, staff recommends that the Commission approve TECO's 2005-2014 DSM Plan and associated tariff sheets, including approval for cost recovery.

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**Issue 2:** Should this docket be closed?

**Recommendation:** Yes. If Issue 1 is approved, this tariff should become effective on the date of the Commission's vote. If a protest is filed within 21 days of the issuance of the order, this tariff should remain in effect with any increase held subject to refund pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order. (Vining)

**Staff Analysis:** If Issue 1 is approved, this tariff should become effective on the date of the Commission's vote. If a protest is filed within 21 days of the issuance of the order, this tariff should remain in effect with any increase held subject to refund pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order.

## ATTACHMENT A

### TAMPA ELECTRIC COMPANY / DEMAND-SIDE MANAGEMENT PLAN

#### RESIDENTIAL DEMAND-SIDE MANAGEMENT PROGRAMS

**Residential Walk-Through Audit:** Free residential energy audit. Company auditor examines home and makes recommendations on low-cost or no-cost energy-saving practices and measures.

**Residential Computer-Assisted Audit:** Comprehensive energy audit where specific data on home structure and customer lifestyle is analyzed to calculate installation cost, investment payback period, and estimated energy savings of available conservation programs. \$15.00 charge for this audit.

**Residential On-Line Audit:** Replacement program for former mail-in audit program. Customers access TECO's website to answer questions about their home and energy usage. Personalized audit results are displayed for customer review and implementation.

**Residential Duct Repair:** Program to check for losses in HVAC equipment by use of a blower door test. The customer receives an assessment of any problems discovered, and will receive a certificate, equal to 75% of the total repair cost up to a maximum of \$200, to be used towards HVAC system repairs. Customer cost for the blower door test is \$25.

**Residential New Construction:** 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. Incentives for qualifying levels will be offered to the home buyer for the following installations:

**Level one:** No incentive. Requires duct closure with mastic and must meet TECO guidelines for allowable duct leakage.

**Level two:** \$100 incentive. Must meet level one requirements plus requires one of the following two options: installation of heat pump with a minimum 12.0 Seasonal Energy Efficiency Rating (SEER) and a minimum 7.2 Heating Seasonal Performance Factor (HSPF); or, installation of air conditioning system that has a minimum 12.0 SEER and heating source must not be electric resistance heat or fuel oil

**Level three:** \$200 incentive. Must meet level one and two requirements plus requires the installation of R-30 ceiling insulation.

**Level four:** \$300 incentive. Must meet level one, two, and three requirements plus install a heat recovery unit or a heat pump water heater (applicable only when used with an electric water heater).

**Residential Heating and Cooling:** Program designed to reduce the growth of peak demand (particularly winter) and energy. Uses a rebate to encourage the installation of high efficiency heat pumps and/or central air conditioning (without oil or resistance heat). Program offers two types of equipment replacement in single family dwellings: type one (heat pump replacing resistance heat; \$250 rebate) and type two (heat pump replacing heat pump; \$100 rebate). Both types require new equipment to have a minimum SEER of 12.0

**Residential Ceiling Insulation:** Program designed to reduce demand and energy by decreasing the load on residential air conditioning and heating equipment. Customers must add a minimum of R-11 insulation in order to qualify for a \$100 incentive.

**Residential Price-Responsive Load Management Pilot (RSVP-1 tariff):** Pilot program in which TECO uses price signals and a multi-tiered rate structure to alert participating customers to reduce load and energy consumption during high-cost periods. The program provides customers with a “smart” thermostat which can be programmed to switch controlled equipment on or off, or automatically change the temperature setting. Customers can also manually adjust the smart thermostat in response to either the multi-tiered rates or critical price signals.

**Residential Prime Time (RSL-3 tariff):** Voluntary load control program in which TECO reduces peak demand by interrupting electric service to water heaters, pool pumps, and central electric heating / air conditioning units. Monthly credit for central heating and cooling appliances is \$12.00 per month for a continuous 3-hour interruption and \$6.00 per month for summer cycle interruption. Water heater and swimming pool pump monthly credits are \$4.00 and \$3.00, respectively. Program is not cost-effective under the RIM test.

RESIDENTIAL DEMAND-SIDE MANAGEMENT PROGRAMS

DSM PROGRAM	Summer Peak Demand		Winter Peak Demand		Annual Energy Consumption		Benefit / Cost Ratio (RIM)
	Savings (MW)	% of Goal	Savings (MW)	% of Goal	Savings (GWh)	% of Goal	
Walk-Through Audit	2.010	13.2%	2.680	13.3%	9.179	21.1%	N/A
Computer Assisted Audit	0.000	0.0%	0.000	0.0%	0.010	0.0%	N/A
On-Line Audit	0.293	1.9%	0.439	2.2%	1.506	3.5%	N/A
Duct Repair	7.760	51.1%	6.790	33.8%	16.917	38.9%	1.12
New Construction	0.053	0.3%	0.040	0.2%	0.112	0.3%	1.02
Heating and Cooling	2.285	15.0%	7.171	35.7%	6.060	13.9%	1.09
Ceiling Insulation	2.988	19.7%	4.084	20.3%	11.720	26.9%	1.09
<b>TOTAL SAVINGS</b>	<b>15.389</b>	<b>101.2%</b>					
<b>GOAL</b>	<b>15.2</b>		<b>20.1</b>		<b>43.5</b>		



## COMMERCIAL / INDUSTRIAL DEMAND-SIDE MANAGEMENT PROGRAMS

**Commercial/Industrial Audit:** Free energy audit program. Auditors recommend energy-efficiency measures and equipment. Demand and energy savings are dependent upon customer implementation of audit recommendations.

**Comprehensive Commercial/Industrial Audit:** Detailed audit which may involve monitoring of specific equipment on customer's premises. Auditors recommend additional energy-efficiency measures. Depending on customer's rate class, fees for this audit range from \$15 to \$75. Demand and energy savings are dependent upon customer implementation of audit recommendations.

**Commercial Cooling:** Program that provides an incentive for the installation of high efficiency direct expansion (DX) cooling systems in commercial buildings. This program encourages customers to replace worn out, inefficient cooling equipment with high efficiency equipment that exceeds minimum product manufacturing standards. Equipment must have a minimum energy efficiency rating (EER) of 10.0. Eligible commercial cooling equipment must be sized between 65,000 and 240,000 Btu. Customer rebate is \$0.002083 per Btu, or approximately \$25 per ton.

**Commercial Indoor Lighting:** Incentive program to encourage investment in more efficient fluorescent lighting technology within conditioned space. Customer receives a \$.10 per watt incentive by achieving a minimum of 1 KW in lighting reduction from any lighting source retrofitted with a more efficient fluorescent lighting system (ballast and lamps).

**Commercial Load Management (GSLM-1 tariff):** Voluntary load control program in which TECO reduces peak demand by interrupting electric service to end-use equipment. Extended control is for large loads, such as walk-in freezers, which are interrupted for up to three hours. Extended control customers receive a \$3.00/kW monthly credit. Cyclic control is for commercial air conditioning equipment, and this is available only during the summer season. Cyclic control customers receive a \$1.00/kW monthly credit.

**Commercial Standby Generator (GSSG-1 tariff):** Program designed to utilize the on-site generation of C/I facilities in order to reduce weather-sensitive peak demand. Participating customers are given a one-hour notice to start their generators and arrange for orderly transfer of load from TECO. Standby generators are metered to determine the average portion of customer load served by the generators when called on by TECO. Participants receive a monthly credit of \$3.00 per kW.

**Conservation Value:** Incentive program designed to encourage investment in demand shifting or demand reduction measures. Measures funded through this program will not be covered under other TECO C/I conservation programs. Must be a C/I customer on firm rates to participate. Approved measures require a minimum summer and/or winter demand savings of 5 kW. TECO pays incentive of up to \$200 per average kW of savings above a baseline case. Customer payback period, including incentive, must be at least two years.

**Industrial Load Management (GSLM-2 and GSLM-3 tariffs):** Direct load control program for large industrial customers on a firm rate tariff and having interruptible loads of at least 500

kW. Requires participation for a 36-month term. Customers must give TECO at least 36 months notice prior to terminating participation in the program. Participants pay an additional customer charge of \$200 per month. The contracted credit value (CCV) paid for this service is established annually as part of TECO's ECCR filing. The monthly CCV value for 2005 is \$4.46/kW.

COMMERCIAL / INDUSTRIAL DEMAND-SIDE MANAGEMENT PROGRAMS

DSM PROGRAM	Summer Peak Demand		Winter Peak Demand		Annual Energy Consumption		Benefit / Cost Ratio (RIM)
	Savings (MW)	% of Goal	Savings (MW)	% of Goal	Savings (GWh)	% of Goal	
C/I Audit	0.202	1.3%	0.152	1.9%	0.861	2.1%	N/A
Comprehensive C/I Audit	0.001	0.0%	0.001	0.0%	0.003	0.0%	1.20
Commercial Cooling	0.345	2.3%	0.000	0.0%	1.374	3.3%	1.20
Commercial Indoor Lighting	9.389	61.4%	3.257	39.7%	40.327	97.2%	N/A
Comm. Load Management – extended and cyclic	1.052	6.9%	0.600	7.3%	0.000	0.0%	1.22
Comm. Standby Generator	4.720	30.8%	4.300	52.4%	0.468	1.1%	1.04
Conservation Value	0.241	1.6%	0.131	1.6%	1.158	2.8%	1.27
<b>TOTAL SAVINGS</b>	<b>15.950</b>	<b>104.2%</b>	<b>8.441</b>	<b>102.9%</b>	<b>44.191</b>	<b>106.5%</b>	
<b>GOAL</b>	<b>15.3</b>		<b>8.2</b>		<b>41.5</b>		