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Susan D. Cranmer
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The Southern Electric System

April 26, 1996

Ms. Blanca S. Bayo, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee FL 32399-0870

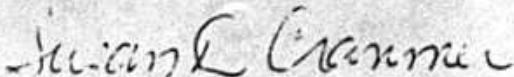
Dear Ms. Bayo:

RE: Docket No. 941172-EI

Enclosed are an original and fifteen copies of Gulf Power Company's Demand-Side Management Monitoring and Evaluation Plan to be filed in the above docket for approval.

Any questions the Commission staff may have regarding the Plan may be directed to Margaret Neyman, Marketing Services Manager, at 904-444-6562.

Sincerely,



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Enclosures

cc: Beggs and Lane
Jeffrey A. Stone, Esquire

DOCUMENT NUMBER-DATE

04814 APR 29 1996

FPSC-RECORDS/REPORTING

Gulf Power's existing DSM programs NOT included in this Monitoring and Evaluation Plan are:

Residential Energy Audit
Gulf Express Loan
Commercial / Industrial Energy Audit and Technical Assistance Audit

Criteria utilized in the degree and type of evaluation judged to be appropriate for each new DSM program are as follows:

1. Cost of the program and the amount of program dollars available for evaluation.
2. The demand and energy savings associated with each program. Those programs, such as Gulf Power's approved AEM Program, that provide the largest amount of savings will receive the larger proportion of monitoring and evaluation efforts.
3. The amount of monitoring and evaluation conducted for each program will be contingent upon the amount of evaluation that has already been performed for that particular program.

This Monitoring and Evaluation Plan is presented in a program - by - program order. Following a short program description, the specific methodology of monitoring and evaluation planned for each program is identified, as well as the estimated frequency of measurement, and estimated costs.

II. RESIDENTIAL PROGRAMS

Advanced Energy Management

Program Description:

This program is designed to provide Gulf Power's customers with the flexibility and means of conveniently and automatically controlling and monitoring their energy purchases in response to prices that vary during the day and by season in relation to the Company's cost of producing or purchasing energy.

The Advanced Energy Management (AEM) System allows the customer to control the amount of electricity purchased for heating, cooling, water heating,

and other selected loads and to purchase electric energy on a variable spot price rate. The various components of the AEM System installed in the customer's home, as well as the components installed at Gulf Power, provide constant communication between customer and utility. The combination of the AEM System and Gulf Power's innovative variable rate concept (RSVP) will provide consumers with the opportunity to modify their usage of electricity in order to purchase energy at prices that are somewhat lower to significantly lower than standard rates a majority of the time. Further, the communication capabilities of the AEM System allow Gulf Power to send a critical price signal to the customers' premises during extreme peak load conditions. The signal results in a reduction attributable to predetermined thermostat and relay settings chosen by the individual participating customer.

Program Objectives:

- Reduce the need for additional facilities required to meet peak period conditions
- Increase the utilization of existing facilities during off-peak periods and measure changes in energy consumption patterns resulting from customer use of advanced energy management features in conjunction with variable pricing
- Enhance customer perception of the value of service by providing an alternative which allows greater understanding of and control over electric bills
- Provide an alternative pricing structure which more accurately reflects the time varying cost of providing electric service
- Increase customer acceptance and satisfaction associated with an alternative pricing structure

Monitoring and Evaluation Plan

Objectives:

- Measure demand and energy reduction
- Measure customer satisfaction
- Measure barriers to customer participation

- Assess participant profiles

Methodology:

- **Premise Metering** of the following:
 1. **Control Group** - data to be obtained from the Rate Class Load Research Study (Docket No. 820491-EU) that is conducted every two years;
 2. **Test Group** - sample to be pulled from the pool of program participants. An AEM Program Participant sample will also be included in the 1998 Residential Customer Survey. (End Use Data Rule 25-17.006 Florida Administrative Code). The Rule requires certain electric utilities to conduct a Residential Customer Survey to collect information on appliance stock, housing characteristics and household demographics.

Premise Metering will be implemented to establish impact evaluation, and will be conducted for both the control and test groups on an on-going basis and will be analyzed every two years, at which time the control and test group will be re-sampled.

- **Post Participation Surveys** - to assess customer satisfaction, identify barriers to customer participation and develop participant profiles.

NOTE: Customer satisfaction of program participants will be benchmarked against the general residential customer satisfaction survey.

- **Participant tracking / Profiles** - When customers apply for the RSVP rate using the AEM System, geodemographic and lifestyle data will be gathered to more accurately profile participants. These customers will be tracked through Gulf Power's MRS (Marketing Reporting System).

Estimated Cost: \$40,000

In Concert With The Environment

Program Description:

"In Concert With The Environment" is an environment and energy awareness program that is being implemented in the 8th and 9th grade science classes in Gulf Power Company's service area. The program will identify how everyday energy use impacts the environment and how using energy wisely increases environmental quality.

Participants in the program become environmental and energy experts by becoming energy investigators in their homes, analyzing the information through a sophisticated software program and by discussing the material in class and presenting their plans for saving energy and natural resources to their families.

Program Objectives:

- To provide residential customers with energy conservation advice that will encourage the implementation of efficiency measures resulting in energy savings for the customer and energy and demand savings for Gulf Power Company
- To encourage the wise use of energy and natural resources and affect change in energy-use habits
- To illustrate the connection which exists between the daily use of energy and the quality of our environment
- To develop a sensitivity to energy related environmental concerns
- To create an understanding of what energy is and how it is transformed for our use
- To help students understand how personal and family energy use impacts the environment, and encourage them to make positive changes in personal and family energy habits and, thus, positively impact the environment

Monitoring and Evaluation Plan

Objectives:

- Determine level of participation
- Assess what actions were taken as a result of student participation in the program
- Measure any change in household energy use - energy and demand reduction
- Assess awareness of environmental issues as they relate to daily living
- Assess student, parent and teacher satisfaction with the program

Methodology:

Some mechanisms for collecting monitoring and evaluation data are inherent in the "In Concert With the Environment" program. They are as follows:

- The take-home energy survey - The student completes this survey with their families. The survey profiles participants by asking questions about their homes, lifestyles, and family and recycling habits. This survey will also serve as a tool for tracking program participation.
- The EcoWatt Benefits Action Plan - This report makes recommendations, based on information gathered from the energy survey, that will save the participating family energy and money, reduce transportation, and improve recycling habits. Students review this plan with their families and make commitments to implement these recommendations. The plan is signed and returned to Gulf Power Company for evaluation.

The energy survey and the EcoWatt Benefits Action Plan will be administered, gathered and analyzed on an on-going basis.

Other methodologies to be used for evaluation purposes:

- Follow-up survey, of a sample of program participants, will measure the recommendations that the participants committed to in The EcoWatt Benefits Action Plan against actions that were actually implemented, to assess energy and demand savings. The follow-up survey will also measure satisfaction with the program.

The follow-up survey will occur at the end of the school year.

Estimated Cost: \$6,000

Duct Leakage Repair

Program Description:

The Duct Leakage Repair Program is designed to provide Gulf Power Company's residential customers a means to identify house air duct leakage and recommend appropriate repairs.

Program Objectives:

- To reduce customer kWh energy usage and KW demand.
- To provide value and cost savings to the customer

Monitoring and Evaluation Plan

Objectives:

- Track program participation
- Measure energy and demand impact

Methodology:

- Track participation levels through MRS (Marketing Reporting System)
- Pre and Post-Participation test - The Duct Blaster equipment will be used to identify duct leakage and savings potential. Of program participants who repair the leakage, a sample will be taken and the Duct Blaster equipment will be used to validate the savings.

Note: In addition to the methodologies outlined above, Gulf Power will also use, — in the evaluation of the Duct Leakage Repair Program, information gained from the 1992 HVAC Duct and Infiltration (Blower Door) Pilot Program. In the pilot, 103 homes were tested and duct repairs performed.

Estimated Cost: \$10,000

Good Cents Environmental Home

Program Description:

The Good Cents Environmental Home program promotes energy-efficient and environmentally sensitive home construction techniques. The Good Cents Environmental Home Program Building Survey and Software program evaluates over 500 components in energy efficiency, building design, construction practices, building materials, water efficiency, and ecological planning.

Program Objectives:

- To provide Gulf Power Company's residential customers with guidance concerning energy and environmental efficiency in new construction.
- To reduce energy usage and peak demand
- To have a positive environmental impact

Monitoring and Evaluation Plan

Objectives:

- Measure energy and demand reduction
- Measure customer participation
- Measure customer satisfaction

- Measure builder participation
- Measure builder satisfaction and acceptance

Methodology:

- Track customer and builder participation through Gulf Power's MRS (Marketing Reporting System)
- Premise Meter a sample of Good Cents Environmental Home program participants to measure energy and peak demand savings - end-use metering will be installed once there is a sufficient number of program participants, and data will be collected for a period of 12 to 18 months.
- Post Participation Survey - Survey customers and builders to measure customer satisfaction and program acceptance

Estimated Cost: \$20,000

Geothermal Heat Pump Program

Program Description:

The Geothermal Heat Pump Program is designed to promote this advanced heating and cooling technology to consumers, builders, HVAC contractors, residential designers and architects through information, education and demonstration. This program is designed to overcome existing market barriers, specifically, lack of consumer awareness, knowledge and acceptance of this technology. This program will promote efficiency levels well above current market conditions, specifically those units with an Energy Efficiency Ratio (EER) of 13.0 or higher.

Program Objectives:

- To reduce the peak demand and energy requirements of new and existing residential customers through the promotion and installation of advanced geothermal systems
- To provide significant benefits to participants in the form of reduced operating costs and increased comfort levels
- To have a positive impact on source efficiency and environmental concerns

Monitoring and Evaluation Plan**Objectives:**

- Track program participation through Gulf Power's MRS (Marketing Reporting System)
- Develop a customer profile of current geothermal heat pump owners
- Assess levels and reasons for non-participation
- Determine how builders, dealers, and contractors view the product and market
- Assess level of comfort experienced by customers
- Measure customer satisfaction
- Measure energy and peak demand impact
- Track and/or identify problems/complaints of geothermal systems

Methodology:

- Track program participation through MRS (Marketing Reporting System)
- Post Participation Surveys - to measure comfort level, customer satisfaction and problems and/or complaints.
- Trade Ally Surveys - to measure acceptance and identify market barriers

- **End-Use Metering** - A sample of program participants will be pulled and sub-metered to measure peak demand and energy savings. End-Use Metering will be installed every 3 years and data will be gathered for a period of 12 to 18 months. This schedule of measurement is intended to coincide with the Residential Saturation Survey that is performed every 4 years by Commission rule. Following this schedule, end-use metering equipment will be installed in participants' homes by the end of 1996 and will be removed by early 1998, in order to coincide with the next Residential Saturation Survey, to be conducted in 1998.

In the design phase of the Geothermal Heat Pump Program, Gulf Power Company has already performed the following qualitative research:

- Focus groups with builders
- Telephone surveys with dealers and contractors
- Telephone surveys with customers that currently have geothermal heat pump systems in their homes - to measure customer satisfaction, comfort level, and problems/complaints with the system
- Telephone surveys with customers that do not have geothermal heat pump systems in their homes - to measure awareness and identify market barriers

Estimated Cost: \$22,000

III. COMMERCIAL / INDUSTRIAL PROGRAMS

Real Time Pricing Pilot

Program Description:

Real Time Pricing (RTP) is characterized by hourly energy prices transmitted to participating commercial and industrial customers by 4:00 p.m. one day ahead of their applicability. Gulf Power's Real Time Price reflects both marginal and embedded costs. The overall price level is tied to embedded costs, with marginal costs serving to shape the hourly prices throughout the year.

Program Objectives:

- To reduce peak demand
- To enhance economic efficiency
- To gain information about customer acceptance and response
- To move Gulf Power's pricing further toward Value-Based Pricing
- To enhance customer satisfaction

Monitoring and Evaluation Plan

Objectives:

- To measure reduction in peak demand
- To measure customer acceptance and satisfaction

Methodology:

- Post Participation Surveys - to measure customer satisfaction with Real Time Pricing. The Participation Survey will be benchmarked against the Key Account Customer Satisfaction Survey (an annual survey that is performed with Gulf Power's largest commercial and industrial customers). Post Participation Surveys will be conducted at the end of the Pilot program (early 1998).
- Peak demand impact will be measured by making a comparison of historical demand and current RTP demand. The difference will be considered demand savings directly attributable to Real Time Pricing. Peak demand impact will be measured on an annual basis.

Estimated Cost: \$10,000

Commercial Good Cents Building

Program Description:

The most common critical areas in commercial buildings that affect summer peak demand are the thermal efficiency of the building and the HVAC equipment efficiency. The Good Cents Building program provides requirements for these areas that will help reduce demand and energy consumption. A building certified as a Good Cents Building is constructed using standards that exceed Florida Model Energy code requirements.

Program Objectives:

- To reduce peak demand and energy usage
- To enhance customer satisfaction

Monitoring and Evaluation Plan

Objectives:

- To measure peak demand and energy reductions
- To track participation

Methodology:

- Peak demand and energy reductions will be measured by the AXCESS - Energy Analysis Computer Program (AXCESS). The AXCESS computer program for evaluation of alternative HVAC systems is designed to calculate the total energy use and demands of a building, including the variations that normally occur in the number of building occupants as well as building equipment in use. Total building energy, demands, and individual equipment energy and demands are metered and displayed in a wide variety of report formats. AXCESS performs up to 8760 hourly calculations for each zone using hourly weather data.
- Participation will be tracked using the MRS (Marketing Reporting System)

Estimated Cost: \$15,000

Energy Efficiency Services

Program Description:

This program is designed to establish the capability and process to offer advanced energy services to customers. These energy services include comprehensive audits, design, construction and financing of energy conservation projects. Specifically, the types of projects covered under this program would be demand reduction or efficiency improvement retrofits having a payback of no longer than ten years, such as lighting (fluorescent and incandescent), HVAC retrofit and new electrotechnologies. This program will initially be limited to Commercial and Industrial customers with a minimum of 500 KW demand.

Program Objectives:

- To reduce peak demand and energy usage
- To enhance customer satisfaction

Monitoring and Evaluation Plan

Due to the uniqueness of each Energy Efficiency Services project, monitoring and evaluation of this program will be administered on a case by case basis. As projects develop, Gulf Power Company will submit a monitoring and evaluation plan specific to each project.

III. CDD Programs

Efficiency Store: Residential Energy Education

Program Description:

The purpose of the Residential Energy Education program is, through means of The Efficiency Store, to introduce energy efficient technologies to the market place at a faster pace than would naturally occur.

The Efficiency Store is designed to provide customers with enhanced interest, awareness, and understanding of energy efficient technologies through hands-on demonstration and display of these technologies as well as informative interactions with on-premise marketing personnel. Also included in the store is a customer bill payment area, district marketing employee offices, an auditorium, a retail sales area and a Commercial Technology Demonstration area.

Program Objectives:

- To reduce demand and energy by promoting and educating residential customers about energy efficient technologies
- To provide a hands-on education for customers through demonstration of technologies and to provide the opportunity for personal interaction and discussion with marketing personnel about these technologies, therefore increasing customer perception and satisfaction

Monitoring and Evaluation Plan

Objectives:

- To measure demand and energy impact
- To measure participation level and customer perception
- To develop a visitor profile - including how often customers visit the store and if they made a purchase and/or schedule an energy audit
- To develop a database of customers that would assess customer perceptions of the store, awareness of energy efficiency issues / technologies and any action taken due to store visits

Methodology:

- Build customer database by gathering data on an on-going basis from store visitors, via an informal on-site survey. Data will be gathered from 4 areas within the store:
 - Specialty Sales
 - Auditorium Presentations
 - Bill Payment Area
 - Marketing Area
- Follow-up Phone Survey - used to assess customer perception, to measure customer awareness of energy efficiency technologies, and to determine if the customer has undertaken any actions based on their visit to The Efficiency Store. For best results, telephone survey will be conducted within a four-week time period after the visit.

Estimated Cost: \$15,000

Efficiency Store: Commercial Technology Demonstration

Program Description:

The purpose of the Commercial Technology Demonstration program is, through means of The Efficiency Store, to introduce energy efficient technologies to the commercial market place at a faster pace than would naturally occur. Energy efficient technologies that yield energy savings and benefits to commercial customers are show-cased through display and demonstration. The customer benefits through the convenience of having one location specifically designed for these demonstration needs and the opportunity to view new technologies in operation.

Technologies for demonstration are intended to be both those new to the market and those already readily available. Those technologies for consideration will include, but are not limited to, lighting, space conditioning, ventilation, cooking, heat recovery, water heating, and renewable energy sources. The following criteria will be used as a guideline in choosing technologies to demonstrate:

- It is an efficient replacement for existing technologies
- It provides the customer with an increased awareness of a new emerging technology not readily available

- It provides the customer the opportunity for increased efficiency and energy savings
- The application of the technology would have a positive affect for Gulf Power and its ratepayers

Monitoring and Evaluation Plan:

Objective:

- To measure demand and energy impact
- To measure participation level and customer perception
- To develop a visitor profile - including how often customers visit the store and if they made a purchase and/or schedule an energy audit
- To develop a database of customers that would assess customer perceptions of the store, awareness of energy efficiency issues / technologies and any action taken due to store visits

Methodology:

- Gather data on an on-going basis from store visitors, via an informal on-site survey.
- Follow-up Phone Survey - used to assess customer perception, to measure customer awareness of energy efficiency technologies, and to determine if the customer has undertaken any actions based on their visit to The Efficiency Store. For best results, telephone survey will be conducted within a four-week time period after the visit.

Estimated Cost: \$15,000

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Approval of Demand-Side)
Management Plan of Gulf Power) Docket No. 941172-EG
Company)
_____)

Certificate of Service

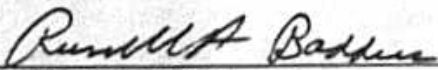
I HEREBY CERTIFY that the original of Gulf's response has been furnished this 26th day of April 1996 by U.S. Mail or hand delivery to the following:

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