Florida Power
CORPORATION

JAMES A. McGEE
SENIOR COUNSEL

December 29, 1999

Ms. Blanca S. Bayó, Director
Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Docket No. 991789-EG

Dear Ms. Bayó:

Enclosed for filing in the subject docket, pursuant to Rule 25-17.0021(4), F.A.C., are an original and fifteen copies of Florida Power Corporation's Demand-Side Management Plan.

Please acknowledge your receipt of the above filing on the enclosed copy of this letter and return to the undersigned. Thank you for your assistance in this matter.

Very truly yours,

James A. McGee

JAM/ams
Enclosure

cc: Parties of record

EAG
Legal - 1
Sec - 1

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A Florida Progress Company

CERTIFICATE OF SERVICE
DOCKET NO. 991789-EG

I HEREBY CERTIFYthat a true and correct copy of Florida Power Corporation's Demand-Side Management Plan has been mailed by U.S. Mail on this 29th day of December, 1999 to the following:

Michael Haff
Division of Electric and Gas
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Debra Swim
Legal Environmental Assistance Foundation
1114 Thomasville Road, Suite E
Tallahassee, FL 32303-6290

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111 W. Madison Street, #812
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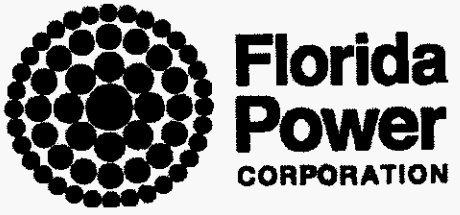

DEMAND-SIDE MANAGEMENT

OF

FLORIDA POWER CORPORATION

DECEMBER 29, 1999

TABLE OF CONTENTS

INTRODUCTION

In accordance with Sections 25-17.001-.005, Florida Administrative Code, the Florida Public Service Commission (FPSC) established numeric conservation goals for Florida Power Corporation (FPC), as set forth in Order No. PSC-99-1942-FOF-EG, issued October 1, 1999, in Docket No. 971005-EG. In response to this Order, FPC submits this Demand Side Management (DSM) Plan to the FPSC for approval.

FPC has designed its DSM Plan to achieve the conservation goals set forth by the FPSC. This plan provides FPC's customers with comprehensive DSM services while resulting in electric rates that are lower than they would have been if this Plan were not implemented. The DSM Plan consists of five (5) residential programs, eight (8) commercial and industrial (C/I) programs, and one research and development program.

The programs contained in FPC's DSM Plan will necessitate several tariff revisions or additions, which are shown in legislative format in the Appendix of this document. Upon FPSC approval of these programs, FPC will submit the related tariffs to Staff for administrative approval.

This document is organized into six sections. The first section presents an overview of FPC's proposed DSM Plan, summarizing the goals and cumulative impacts of the plan. Section II discusses some general issues associated with demand-side management planning and implementation, including program operation, cost-effectiveness, program monitoring and evaluation, and cost-recovery. Section III presents FPC's proposed residential programs. Section IV presents FPC's proposed commercial/industrial programs. Section V presents FPC's Technology Development program.

I. PROGRAM GOALS AND CUMULATIVE IMPACT

I. PROGRAM GOALS AND CUMULATIVE IMPACT

Florida Power Corporation's DSM Plan has specifically been designed to efficiently acquire all cost-effective DSM resources necessary to meet the conservation goals established by the FPSC in Order No. PSC-99-1942-FOF-EG. The DSM Plan consists of five (5) residential programs, eight (8) commercial and industrial (C/I) programs, and one research and development program:

RESIDENTIAL PROGRAMS	COMMERCIAL/INDUSTRIAL PROGRAMS
Home Energy Check	Business Energy Check
Home Energy Improvement	Better Business
New Construction	C/I New Construction
Low Income Weatherization Assistance	Innovation Incentive
Residential Energy Management	Commercial Energy Management
	Standby Generation
	Interruptible Service
	Curtailable Service
Technology Development	

These DSM programs have been integrally designed to achieve the conservation goals established by the FPSC, while minimizing the rate impacts on all FPC customers. In designing these DSM programs, the following multiple objectives were addressed:

- Achieve the annual conservation goals established by the FPSC for 2000-2009
- Minimize rate impacts to all FPC customers
- Base program designs on customer needs
- Implement mechanisms to minimize free ridership
- Capture all cost-effective DSM resources, including cost-effective lost opportunities
- Provide customers with added value -- efficiency, convenience, productivity, comfort and reliability, and
- Utilize market involvement, such as dealers and home builders, where appropriate.

Tables I-1 and I-2 present the cumulative demand and energy impacts projected to be achieved by this DSM Plan as compared to the Commission-established goals for each year during the planning period 2000-2009, for the residential and C/I sectors, respectively. FPC's DSM Plan is designed to meet or exceed the Commission-established energy and demand goals.

Table I-1
Florida Power Corp.
Residential Market Segment Demand and Energy Data

Year	Projected Summer Demand Savings (MW)		Commission Approved Summer MW Goal (Cum.)	Projected Winter Demand Savings (MW)		Commission Approved Winter MW Goal (Cum.)	Projected Annual Energy Savings (GWh)		Commission Approved Annual GWh Goal (Cum.)
	Incremental	Cumulative		Incremental	Cumulative		Incremental	Cumulative	
2000	10	10	10	30	30	30	16	16	15
2001	10	20	20	34	64	64	18	34	32
2002	12	32	32	38	102	102	18	52	50
2003	13	45	45	40	142	142	20	72	69
2004	13	58	58	43	185	185	20	92	88
2005	14	72	72	44	229	229	21	113	108
2006	13	85	85	43	272	271	21	134	127
2007	14	99	99	41	313	312	20	154	147
2008	13	112	112	39	352	352	20	174	166
2009	13	125	125	37	389	389	20	194	185

NOTE: Commission Approved Goals are pursuant to Order No. PSC-99-1942-FOF-EG.
The incremental values may not exactly add to the cumulative values due to rounding.

Table I-2
Florida Power Corp.
Commercial/Industrial Market Segment Demand and Energy Data

Year	Projected Summer Demand Savings (MW)		Commission Approved Summer MW Goal (Cum.)	Projected Winter Demand Savings (MW)		Commission Approved Winter MW Goal (Cum.)	Projected Annual Energy Savings (GWh)		Commission Approved Annual GWh Goal (Cum.)
	Incremental	Cumulative		Incremental	Cumulative		Incremental	Cumulative	
2000	4	4	3.8	4	4	3.8	2	2	2
2001	4	8	8	4	8	7	2	4	4
2002	5	13	11	4	12	11	2	6	6
2003	4	17	15	4	16	15	2	8	8
2004	4	21	19	4	20	18	2	10	10
2005	4	25	23	4	24	22	2	12	12
2006	5	30	26	5	29	26	2	14	13
2007	4	34	30	4	33	30	2	16	15
2008	4	38	34	4	37	33	2	18	17
2009	4	42	38	4	41	37	2	20	19

NOTE: Commission Approved Goals are pursuant to Order No. PSC-99-1942-FOF-EG.
The incremental values may not exactly add to the cumulative values due to rounding.

II. PROGRAM INTRODUCTION

II. PROGRAM INTRODUCTION

A. PROGRAM OPERATION

The focal point for both the residential and the C/I sector programs is an energy audit program (Home Energy Check for residential and Business Energy Check for C/I). The energy audit programs serve multiple purposes to satisfy the needs of FPC, its customers, and the Commission:

1. Educate customers by providing an overview of typical energy use.
2. Identify opportunities for improving energy efficiency at the customer's home or facility.
3. Serve as the marketing tool to introduce customers to FPC's other conservation programs.
4. Assist FPC in minimizing free ridership in the other DSM programs.
5. Satisfy the Commission's mandate to offer energy audit services to all customers.

For the residential sector, FPC has consolidated most measures into two "umbrella" programs -- the Home Energy Improvement program for existing customers and the New Construction program for new home builders. The creation of these comprehensive programs provides significant benefits over implementing measure-specific programs, including the following:

- Increased program cost-effectiveness through lower program administration, implementation, monitoring, and evaluation costs by minimizing redundant functions.
- More efficient program delivery because each customer can be more comprehensively addressed.
- Improved marketability to customers through concise, consistent, and comprehensive program packaging.

For the C/I sector, FPC has also consolidated most of the measures into "umbrella" programs -- the Better Business program for existing customers and the C/I New Construction program for new construction buildings. These "umbrella" programs provide the same benefits as described above. But in the commercial and industrial sectors, because the facilities and systems are more complex than in the residential sector, there are additional opportunities for conservation from customer-specific technology improvements, as well as from alternative rates. Thus, for the C/I sector, FPC's DSM Plan also includes the Innovation Incentive program for customized efficiency improvements, as well as the Standby Generation, Interruptible Service, and Curtailable Service programs.

B. COST-EFFECTIVENESS

All programs submitted in this DSM Plan have been analyzed for cost-effectiveness using the Commission-approved tests described in Rule 25-17.008, Florida Administrative Code. FPC's DSM Plan has specifically been designed to efficiently acquire all cost-effective DSM resources necessary to meet the Commission-established goals for FPC. The programs were evaluated based on the Rate Impact Measure (RIM) test to ensure that the DSM programs result in lower electric rates than supply-side alternatives.

In order to conduct the cost-effectiveness analysis, the DSView model (produced by New Energy Associates) was used to evaluate the DSM programs against potentially avoidable supply-side capacity. In contrast to static models such as the Florida Integrated Resource Evaluator (FIRE) model, DSView is a more sophisticated dynamic model which more nearly simulates the operation of the power system. For example, DSView is directly integrated with other supply-side planning models, thereby allowing variables such as marginal fuel costs, hourly production costs, and generation equivalency to be computed and applied more accurately than under the FIRE model. Because of this fundamental modeling concept difference, DSView will produce different results from the FIRE model.

A summary of the cost-effectiveness results for each of the DSM programs included in this DSM Plan are shown in Table II-1. In addition, detailed program cost-effectiveness results are presented at the end of each program discussion in Sections III and IV of this document. These detailed results consist of one page each for the RIM, Participant, and Total Resource Cost (TRC) Tests.

Table II-1

Summary of Demand Side Management Programs
Included in Proposed Plan
Period 2000-2009

DSM Measure	Rate Impact Measure Test			Participant Test			Total Resource Cost Test			Program Status
	PV Total Benefits ($000)	PV Total Costs ($000)	B / C Ratio	PV Total Benefits ($000)	PV Total Costs ($000)	B / C Ratio	PV Total Benefits ($000)	PV Total Costs ($000)	B / C Ratio	
Home Energy Check	NA	NA	NA	NA	NA	NA	NA	NA	NA	Existing
Home Energy Improvement	58,937	52,999	1.11	50,154	19,452	2.58	58,937	22,297	2.64	Modified
Residential New Construction	45,795	40,630	1.13	35,305	11,740	3.01	45,795	17,065	2.68	Modified
Low Income Weatherization	1,630	1,602	1.02	1,330	0	9999	1,630	272	5.99	New
Res Year-Round Energy Mgmt	82,516	98,117	0.81	69,545	2	9999	82,514	28,572	2.76	Modified
Res Winter-Only Energy Mgmt	37,282	28,800	1.24	11,277	0	9999	37,282	17,524	2.05	Modified
Business Energy Check	NA	NA	NA	NA	NA	NA	NA	NA	NA	Existing
Better Business	6,537	5,776	1.13	5,602	1,963	2.85	6,537	2,137	3.06	Modified
C/I New Construction	1,948	1,855	1.05	1,727	448	3.86	1,948	576	3.38	Modified
Innovation Incentive	NA	NA	NA	NA	NA	NA	NA	NA	NA	Existing
Commercial Energy Management	144	187	0.79	56	0	9999	144	131	1.13	Existing
Standby Generation	7,816	885	1.14	214	0	9999	7,816	671	9.98	Modified
Interruptible Service	272	270	1.00	190	0	9999	272	80	3.39	Existing
Curtailable Service	634	479	1.32	251	0	9999	634	228	2.77	Existing
Technology Development	NA	NA	NA	NA	NA	NA	NA	NA	NA	Existing

NOTES:

(1) Home Energy Check and Business Energy Check are FPSC-mandated programs; therefore, no cost-effectiveness analysis was conducted for these programs.

(2) Innovation Incentive projects are individually evaluated for cost-effectiveness; only projects that pass both the RIM and Participant Tests are appproved.

(3) Technology Development projects are individually evaluated for cost-effectiveness.

C. PROGRAM MONITORING AND EVALUATION

Program monitoring and evaluation are important components of DSM implementation. They serve the purpose of ensuring that all DSM resources are acquired in a cost-effective manner. Specifically, program monitoring includes tracking program data and ensuring quality control. Program evaluation results document the energy and demand impacts and cost-effectiveness of the program, as well as suggest ways that the program can be improved by increasing savings, reducing costs, or increasing participation.

While there is a great need to regularly evaluate programs to ensure their cost-effectiveness, there is an equally great need to utilize the evaluation method that is most cost-effective. Imprudent expenditures on evaluation can significantly affect the overall cost-effectiveness of a program to its detriment. Just as FPC's DSM Plan is limited to cost-effective programs, only cost-effective evaluation efforts should be used to evaluate these programs. The level of evaluation effort must be balanced with the need for evaluation. For example, the programs that provide the largest portion of the total DSM impact should be given the greatest evaluation emphasis. Programs (or measures) that provide small per unit impacts or which have had relatively low levels of participation should be evaluated using approaches that can be justified given their relative contribution to the total net benefits.

Therefore, while there are many methods available to evaluate the impacts of these programs, FPC will determine on a program-by-program basis the most cost-effective evaluation method based on factors such as participation levels, program performance, dollars invested, the level of uncertainty of measure performance, etc.

D. COST-RECOVERY

FPC submits the programs herein described for approval and for inclusion as cost recoverable Conservation and Energy Efficiency Programs (under current FPSC-approved procedures) pursuant to Rule 25-17.015, and requests permission to recover all costs associated with the development and administration of this DSM Plan.

In addition, FPC intends to maintain its work toward administering and negotiating cogeneration contracts, and will continue to seek recovery of all associated administrative costs through the Energy Conservation Cost Recovery (ECCR) Clause.

FPC will make every effort toward the most appropriate transition from its existing DSM programs to any new or modified programs submitted in this Plan. As such, FPC seeks to recover all costs incurred through the implementation of those existing programs during the transition period. This is in accordance with approved Program Participation Standards which allow, in the event of program discontinuance, the extension of current recommendations and rebate amounts for up to two years from the date of program discontinuance or until the rebate is paid, whichever is sooner.

FPC has designed each of the DSM programs to pass the RIM test; therefore, each program is cost-effective on its own merit. This should not rule out the possibility that the Company may request incentives or recovery of lost revenues in the future.

III. RESIDENTIAL CONSERVATION PROGRAMS

III. RESIDENTIAL CONSERVATION PROGRAMS

Florida Power Corporation's DSM Plan includes five (5) residential programs:

A. **Home Energy Check** - residential energy audits

B. **Home Energy Improvement** - "umbrella" program for existing homes

C. **New Construction** - "umbrella" program for new residential construction, multi-family, and manufactured homes

D. **Low Income Weatherization Assistance Program** - "umbrella" program for the weatherization of low income family homes

E. **Residential Energy Management** - residential load control

Each program is described in detail in the following sections.

A. HOME ENERGY CHECK PROGRAM

Program Start Date: ▸ 1995

Policies and Procedures

The Home Energy Check is FPC's residential energy audit program, which provides its customers with an analysis of their current energy use and recommendations on how they can save on their electricity bill through low-cost or no-cost energy-saving practices and measures. It also serves as the foundation of the Home Energy Improvement program in that it serves as a prerequisite for participation in any of the retrofit-type components of the Home Energy Improvement program. The exception is an emergency replacement of high efficient heat pump(s). This requirement exists so that FPC can: 1) provide the customer with an overview of typical energy use, 2) verify that the action requested (e.g., additional attic insulation) will address the customer's problem, and 3) help to minimize free ridership in the Home Energy Improvement program.

The Home Energy Check program provides customers with four types of energy audits:

Level 1: Customer-completed Mail-In Audit (Do-It-Yourself Home Energy Check)

Level 2: Free Walk-Through Audit (current Home Energy Check)

Level 3: Paid Walk-Through Audit (current Home Energy Analysis)

Level 4: Home Energy Rating (Class I, II, III energy ratings)

All residential customers of FPC are eligible to receive any of the above energy audits. There is no charge for the Level 1 or Level 2 audits, while there is a $15 customer charge for the Level 3 audit. When a customer requests a Home Energy Check, they will be given the option of either receiving a Level 1 audit survey in the mail or scheduling a Level 2 or Level 3 walk-through audit. A FPC auditor will usually conduct the audit, although FPC may also work with other agencies and/or utilities as an extension of FPC's services, in which case an approved auditor from another organization may conduct the audit. The Home Energy Rating as outlined in FPC's "Florida Energy Gauge Ratings" rate tariff (Section II, sheet number 2.6) is available to all eligible FPC customers upon request.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Program Participants [2]	Cumulative Penetration Level (%)
2000	1,230,736	1,230,736	22,500	2%
2001	1,252,598	1,252,598	46,500	4%
2002	1,274,213	1,274,213	71,000	6%
2003	1,295,656	1,295,656	96,000	7%
2004	1,316,791	1,316,791	121,200	9%
2005	1,337,264	1,337,264	146,370	11%
2006	1,357,066	1,357,066	171,770	13%
2007	1,376,186	1,376,186	197,270	14%
2008	1,394,931	1,394,931	222,770	16%
2009	1,413,612	1,413,612	248,270	18%

1. *Total Number of Customers is the forecast of all residential customers, from the June 1999 Forecast.*
2. *Annual Number of Program Participants is the projected number of cumulative energy audits that will be conducted.*

Savings Estimates

The total program savings were developed by estimating impacts for each audit level and for low-cost energy efficiency measures promoted through the program. The total program savings are shown in the following table.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	275	0.085	0.085	6,190,000	1,910	1,910
2001	269	0.083	0.083	12,505,000	3,858	3,858
2002	267	0.082	0.082	18,984,000	5,856	5,856
2003	267	0.082	0.082	25,629,000	7,906	7,906
2004	267	0.082	0.082	32,314,000	9,968	9,968
2005	266	0.082	0.082	38,973,000	12,021	12,021
2006	266	0.082	0.082	45,675,000	14,089	14,089
2007	266	0.082	0.082	52,411,000	16,166	16,166
2008	266	0.082	0.082	59,146,000	18,243	18,243
2009	265	0.082	0.082	65,882,000	20,321	20,321

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	289	0.089	0.090	6,501,357	1,994	2,022
2001	282	0.087	0.088	13,134,002	4,026	4,084
2002	281	0.086	0.087	19,938,895	6,112	6,200
2003	280	0.086	0.087	26,918,139	8,252	8,370
2004	280	0.086	0.087	33,939,394	10,404	10,553
2005	280	0.086	0.087	40,933,342	12,548	12,727
2006	279	0.086	0.087	47,972,453	14,706	14,916
2007	279	0.086	0.087	55,047,273	16,874	17,115
2008	279	0.085	0.087	62,121,044	19,043	19,314
2009	279	0.085	0.087	69,195,865	21,211	21,514

Per customer impacts vary from year to year because of the changing mix of audit participants in the various audit levels, as well as the mix of low-cost measures assumed to be installed in any given year.

Impact Evaluation Plan

The range of possible recommendations resulting from the audit, and the inclusion of both technological and behavioral recommendations suggests the need to survey Home Energy Check participants to determine what specific conservation actions have been implemented within each market segment due to the completed audit. These survey results, combined with the participant-specific data gathered during the audit, will be used to determine the savings that can be directly attributable to the Home Energy Check program.

B. HOME ENERGY IMPROVEMENT PROGRAM

Program Start Date: ▸ 1995

▸ Proposed modification for 2000

Policies and Procedures

The Home Energy Improvement program is the umbrella program to increase energy efficiency for existing residential homes. It combines efficiency improvements to the thermal envelope with upgraded electric appliances. The program seeks to meet the following overall goals:

- Improve customer comfort levels through efficient equipment and home thermal integrity upgrades.
- Obtain energy and demand impacts that are accurate, sustainable, and measurable.
- Enhance contractor awareness of new technologies.
- Educate customers about additional opportunities associated with an energy efficient home.
- Obtain cost effective resources from the marketplace.
- Minimize "lost opportunities" in the existing home market.

The program provides incentives for attic insulation upgrades, duct testing and repair, high efficiency heat pumps, heat recovery units, and dedicated heat pump water heaters. The program eligibility requirements to qualify for participation are as follows:

- The home must be metered by Florida Power.
- The home is required to have a residential energy audit prior to participation for the attic insulation and duct test and repair.
- Duct repairs must be sealed with mastic meeting UL 181 specifications consistent with duct manufacturer's requirements.
- New construction homes do not qualify under this program.
- High efficient heat pump incentives will be paid for replacing existing electric heat pumps and/or electric resistance heat.

Incentive Levels and specific eligibility requirements for each measure promoted in this program will be presented in the "Program Participation Standards."

Attic Insulation Upgrade

This portion of the program encourages customers to add insulation to the ceiling area by paying a portion of the installed cost. The home must have an existing insulation level of less than R-12 to participate. The customer must have either whole house electric cooling or electric heating to be eligible for this program. The maximum incentive available will be $100 per residence, the specific incentive is determined by the resulting insulation level.

Duct Test and Repair

This portion of the program is designed to encourage eligible customers to improve their central duct system by reducing the air leakage rate. This is accomplished by performing a duct leakage test, then offering to repair the leakage that is discovered by the duct test. The home must have central ducted electric cooling and electric heat to participate in this measure. For a duct test, FPC will pay up to a maximum of $30 for the first unit and $20 for each additional unit at the same address. For the duct repair, FPC will pay an incentive of up to $100 per unit. For multi-family rental units, FPC will pay all the costs up to $100 per unit (top floor only) and no test is required.

High Efficiency Electric Heat Pumps

For high efficient electric heat pumps, FPC will provide an incentive up to $350 per unit. The specific incentive available is dependent upon the efficiency level of the unit installed and the type of electric heat the new equipment is replacing. In order to qualify for an incentive both the air handler and the outdoor condensing unit shall be replaced, and both units shall be new. This program seeks to accommodate emergency replacement situations by allowing a participant to have a Home Energy Check conducted after the installation and still be eligible for the incentive.

High Efficiency Alternate Water Heating

The high efficiency water heating portion of this program promotes technologies that heat water more efficiently than a standard electric water heater and save energy. The incentive depends on the type of technology being installed. For heat recovery units, FPC will provide an incentive of $100 per residence. For dedicated heat pump water heaters, FPC will provide an incentive of $200 per unit.

Supplemental Incentive Bonus

To maximize the implementation of energy efficiency measures per participant, an incentive bonus is provided to high efficiency electric heat pump participants who also implement ceiling insulation upgrade, duct leakage repair, or both, within 90 days, before or after, of the installation date of the high efficiency electric heat pump. The purpose of this incentive is to offset some of the customer's large capital outlay to install more than one energy efficiency measure. The maximum incentive bonus a customer can receive is $50.

Financing

FPC is offering as an alternative to the incentives, a financing option. The financing option is an interest free (12 Month) installment-billing plan. As an alternative to receiving an incentive, the customer may choose to finance their energy efficient measure for up to one-year interest free.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Measure Participants [3]	Cumulative Penetration Level (%)
2000	1,230,736	61,537	12,434	20%
2001	1,252,598	123,074	25,578	21%
2002	1,274,213	184,611	39,112	21%
2003	1,295,656	246,148	52,665	21%
2004	1,316,791	307,685	65,822	21%
2005	1,337,264	369,222	78,266	21%
2006	1,357,066	430,759	89,725	21%
2007	1,376,186	492,296	100,047	20%
2008	1,394,931	553,833	109,185	20%
2009	1,413,612	615,370	117,179	19%

1. *Total Number of Customers is the forecast of all residential customers, from the June 1999 Forecast.*
2. *Total number of Eligible Customers is based on an estimate of the cumulative number of central heat pumps and air conditioners that are replaced each year.*
3. *Annual number of Measure Participants is the projected number of cumulative measure installations from all measures promoted through this program. Because customers can install multiple measures, the actual number of participants will be less.*

Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's (1) per customer savings and, (2) annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	538	0.968	0.388	6,694,000	12,040	4,824
2001	537	0.962	0.389	13,741,000	24,612	9,957
2002	536	0.958	0.390	20,981,000	37,468	15,261
2003	536	0.956	0.391	28,223,000	50,314	20,573
2004	536	0.955	0.391	35,277,000	62,871	25,721
2005	536	0.957	0.390	41,973,000	74,879	30,554
2006	536	0.960	0.390	48,181,000	86,148	34,957
2007	538	0.965	0.388	53,827,000	96,568	38,861
2008	539	0.972	0.387	58,889,000	106,105	42,246
2009	541	0.980	0.385	63,385,000	114,787	45,130

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	565	1.010	0.410	7,030,708	12,567	5,107
2001	564	1.004	0.411	14,432,172	25,690	10,541
2002	562	1.000	0.412	22,036,344	39,109	16,156
2003	562	0.997	0.413	29,642,616	52,517	21,780
2004	562	0.996	0.413	37,051,433	65,624	27,230
2005	562	0.998	0.412	44,084,241	78,158	32,347
2006	562	1.002	0.412	50,604,504	89,921	37,008
2007	565	1.007	0.410	56,534,498	100,797	41,142
2008	566	1.015	0.409	61,851,116	110,752	44,725
2009	568	1.023	0.407	66,573,265	119,814	47,779

Impact Evaluation Plan

The impact evaluation plan for an "umbrella" program such as this requires a varied approach given the number and type of measures being promoted. Some measures provide large per unit impacts while other yield relatively smaller impacts. The total impact from all smaller-impact measures could be potentially less than the uncertainty around an impact estimate of just one large measure. Consequently, the impact evaluation will place greater emphasis on the larger impact measures. The method of impact evaluation may vary depending on the participation levels actually achieved for each measure. Engineering analysis and statistical billing analysis represents the primary methods that will be used to estimate demand and energy impacts. These analyses will be supported by residential end-use metering data.

Cost-Effectiveness

The economic results of the program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	58,937	52,999	5,938	1.11
Participant	50,154	19,452	30,702	2.58
Total Resource Cost	58,937	22,297	36,640	2.64

PROGRAM: Home Energy Improvement

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	495	1797	0	2292	3009	0	3009	-717
2001	1001	1873	0	2874	3103	0	3103	-229
2002	1565	1914	0	3479	3154	0	3154	325
2003	2119	1912	0	4031	3148	0	3148	883
2004	2648	1871	0	4519	3101	0	3101	1418
2005	3153	1792	0	4945	3009	0	3009	1936
2006	3623	1687	0	5310	2893	0	2893	2417
2007	4041	1566	0	5607	2755	0	2755	2852
2008	4434	1441	0	5875	2615	0	2615	3260
2009	4850	1320	0	6170	2478	0	2478	3692
2010	4928	0	0	4928	0	0	0	4928
2011	5010	0	0	5010	0	0	0	5010
2012	5096	0	0	5096	0	0	0	5096
2013	5183	0	0	5183	0	0	0	5183
2014	5267	0	0	5267	0	0	0	5267
2015	5355	0	0	5355	0	0	0	5355
2016	5441	0	0	5441	0	0	0	5441
2017	5532	0	0	5532	0	0	0	5532
2018	5621	0	0	5621	0	0	0	5621
2019	5715	0	0	5715	0	0	0	5715
2020	5810	0	0	5810	0	0	0	5810
2021	5906	0	0	5906	0	0	0	5906
2022	6003	0	0	6003	0	0	0	6003
2023	6103	0	0	6103	0	0	0	6103
2024	6202	0	0	6202	0	0	0	6202
2025	6305	0	0	6305	0	0	0	6305
2026	6407	0	0	6407	0	0	0	6407
2027	6514	0	0	6514	0	0	0	6514
2028	6619	0	0	6619	0	0	0	6619
NOMINAL	136946	17173	0	154119	29265	0	29265	124854
NPV	38657	11497	0	50154	19452	0	19452	30702

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 2.58

PROGRAM: Home Energy Improvement

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	254	405	0	0	659	3009	0	0	0	445	3454	-2795
2001	498	827	0	0	1325	3103	0	0	0	465	3568	-2243
2002	689	1258	665	0	2612	3154	0	0	0	476	3630	-1018
2003	1025	1681	855	0	3561	3148	0	0	0	476	3624	-63
2004	1358	2103	278	0	3739	3101	0	0	0	465	3566	173
2005	2648	2508	791	0	5947	3009	0	0	0	445	3454	2493
2006	5681	2889	2035	0	10605	2893	0	0	0	417	3310	7295
2007	1872	3244	1934	0	7050	2755	0	0	0	385	3140	3910
2008	3308	3571	804	0	7683	2615	0	0	0	352	2967	4716
2009	2368	3870	495	0	6733	2478	0	0	0	320	2798	3935
2010	2906	3870	538	0	7314	0	0	0	0	0	0	7314
2011	2423	3870	526	0	6819	0	0	0	0	0	0	6819
2012	2489	3870	43	0	6402	0	0	0	0	0	0	6402
2013	2477	3870	568	0	6915	0	0	0	0	0	0	6915
2014	2492	3870	623	0	6985	0	0	0	0	0	0	6985
2015	2537	3870	604	0	7011	0	0	0	0	0	0	7011
2016	2579	3870	665	0	7114	0	0	0	0	0	0	7114
2017	2598	3870	642	0	7110	0	0	0	0	0	0	7110
2018	2597	3870	703	0	7170	0	0	0	0	0	0	7170
2019	2615	3870	683	0	7168	0	0	0	0	0	0	7168
2020	2750	3870	1434	0	8054	0	0	0	0	0	0	8054
2021	2776	3870	1460	0	8106	0	0	0	0	0	0	8106
2022	3350	3870	1522	0	8742	0	0	0	0	0	0	8742
2023	2867	3870	1552	0	8289	0	0	0	0	0	0	8289
2024	2832	3870	1620	0	8322	0	0	0	0	0	0	8322
2025	2858	3870	1649	0	8377	0	0	0	0	0	0	8377
2026	3356	3870	1720	0	8946	0	0	0	0	0	0	8946
2027	2944	3870	1753	0	8567	0	0	0	0	0	0	8567
2028	3005	3870	1830	0	8705	0	0	0	0	0	0	8705
NOMINAL	72152	95886	27992	0	196030	29265	0	0	0	4246	33511	162519
NPV	22218	28719	8000	0	58937	19452	0	0	0	2845	22297	36640

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.64

PROGRAM: Home Energy Improvement

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	254	405	0	0	659	0	0	0	445	1797	495	2737	-2078
2001	498	827	0	0	1325	0	0	0	465	1873	1001	3339	-2014
2002	689	1258	665	0	2612	0	0	0	476	1914	1565	3955	-1343
2003	1025	1681	855	0	3561	0	0	0	476	1912	2119	4507	-946
2004	1358	2103	278	0	3739	0	0	0	465	1871	2648	4984	-1245
2005	2648	2508	791	0	5947	0	0	0	445	1792	3153	5390	557
2006	5681	2889	2035	0	10605	0	0	0	417	1687	3623	5727	4878
2007	1872	3244	1934	0	7050	0	0	0	385	1566	4041	5992	1058
2008	3308	3571	804	0	7683	0	0	0	352	1441	4434	6227	1456
2009	2368	3870	495	0	6733	0	0	0	320	1320	4850	6490	243
2010	2906	3870	538	0	7314	0	0	0	0	0	4928	4928	2386
2011	2423	3870	526	0	6819	0	0	0	0	0	5010	5010	1809
2012	2489	3870	43	0	6402	0	0	0	0	0	5096	5096	1306
2013	2477	3870	568	0	6915	0	0	0	0	0	5183	5183	1732
2014	2492	3870	623	0	6985	0	0	0	0	0	5267	5267	1718
2015	2537	3870	604	0	7011	0	0	0	0	0	5355	5355	1656
2016	2579	3870	665	0	7114	0	0	0	0	0	5441	5441	1673
2017	2598	3870	642	0	7110	0	0	0	0	0	5532	5532	1578
2018	2597	3870	703	0	7170	0	0	0	0	0	5621	5621	1549
2019	2615	3870	683	0	7168	0	0	0	0	0	5715	5715	1453
2020	2750	3870	1434	0	8054	0	0	0	0	0	5810	5810	2244
2021	2776	3870	1460	0	8106	0	0	0	0	0	5906	5906	2200
2022	3350	3870	1522	0	8742	0	0	0	0	0	6003	6003	2739
2023	2867	3870	1552	0	8289	0	0	0	0	0	6103	6103	2186
2024	2832	3870	1620	0	8322	0	0	0	0	0	6202	6202	2120
2025	2858	3870	1649	0	8377	0	0	0	0	0	6305	6305	2072
2026	3356	3870	1720	0	8946	0	0	0	0	0	6407	6407	2539
2027	2944	3870	1753	0	8567	0	0	0	0	0	6514	6514	2053
2028	3005	3870	1830	0	8705	0	0	0	0	0	6619	6619	2086
NOMINAL	72152	95886	27992	0	196030	0	0	0	4246	17173	136946	158365	37665
NPV	22218	28719	8000	0	58937	0	0	0	2845	11497	38657	52999	5938

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.11

C. NEW CONSTRUCTION

Program Start Date:
- 1995
- Proposed modification for 2000

Policies and Procedures

The New Construction program is an "umbrella" program for the New Construction, Multi-family, and Manufactured Home building segments.

The New Construction program promotes energy efficient construction in order to provide customers with more efficient dwellings combined with improved environmental comfort.

The objectives of the program include the following goals:

- Educate builders and builder/owners and property managers[1] about energy efficient construction design to increase the supply of energy efficient homes.
- Educate customers and realtors about energy efficient construction design to increase the demand for energy efficient homes.
- Obtain energy and demand impacts that are accurate, sustainable, and measurable.
- Enhance contractor awareness of new technologies.
- Obtain cost effective resources from the marketplace.
- Minimize "lost opportunities" in the new home market.

The program provides education and information to the design community on energy efficient equipment and construction. The program provides the following:

- Financial incentives for energy efficient equipment.
- "Third party" endorsement/certification and FPC's seal of approval.
- Cooperative advertising for the most energy efficient builders.

[1] Contractors, builders, builder/owners, and property managers are synonymous.

The program facilitates the design and construction of energy efficient homes by working directly with the builders to comply with program requirements. Builders that express interest in participating in this program will be required to fulfill pre-qualification requirements. Then, as builders inform FPC regarding their plans to design and build additional homes, FPC representatives will provide assistance to ensure that the design and construction of the home(s) meet program requirements. Home certification criteria include the following:

- The home must be metered by Florida Power.
- The builder must meet requirements listed in the Program Participation Standards.
- The heating source must be an all electric heat pump. No resistance heat is allowed except as back up heat. Straight air with electric strip is not allowed to participate.[2]
- Duct sealing integrity, insulation levels, and equipment efficiencies, sizing and installations must meet specific program requirements.

This program has three levels of participation with various options within each level. The builder is offered a choice of energy efficiency measures that more closely meet the home's design criteria. Program details such as builder qualification criteria, home certification requirements and incentive levels for high efficient equipment promoted by this program will be presented in the Program Participation Standards.

High Efficiency Electric Heat Pumps

For electric heat pumps, FPC will provide an incentive up to a maximum of $300 per unit. The specific incentive amount is dependent on the energy efficiency of the equipment. The Program Participation Standards will specify additional qualifying criteria for incentive eligibility.

High Efficiency Alternate Electric Water Heating

The high efficiency alternate electric water heating incentive is based on the type of alternate water heating equipment that is installed. For heat recovery units, FPC will provide an incentive of $100. For Dedicated Heat Pump Water Heaters the incentive is $200. Manufacturer specifications for equipment installation must be followed.

[2] Exception would be for multi-family housing above three stories in height.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Measure Participants [3]	Cumulative Penetration Level (%)
2000	1,230,736	22,742	6,562	29%
2001	1,252,598	45,484	14,939	33%
2002	1,274,213	68,226	25,220	37%
2003	1,295,656	90,968	37,345	41%
2004	1,316,791	113,710	51,114	45%
2005	1,337,264	136,452	66,240	49%
2006	1,357,066	159,194	82,424	52%
2007	1,376,186	181,936	99,330	55%
2008	1,394,931	204,678	116,646	57%
2009	1,413,612	227,420	134,120	59%

1. *Total Number of Customers is the forecast of all residential customers, from the June 1999 Forecast.*
2. *Total number of eligible new homes constructed in FPC's territory.*
3. *Annual Number of Measure Participants is the projected number of cumulative measure applications from all measures promoted by this program. Because customer can install multiple measures, the actual number of participants will be less.*

Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's (1) per customer savings and, (2) annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	470	0.864	0.425	3,083,000	5,670	2,786
2001	469	0.870	0.426	7,011,000	12,995	6,370
2002	469	0.875	0.428	11,826,000	22,059	10,788
2003	469	0.879	0.429	17,500,000	32,814	16,018
2004	468	0.882	0.430	23,937,000	45,075	21,972
2005	468	0.884	0.431	31,006,000	58,578	28,520
2006	468	0.886	0.431	38,569,000	73,054	35,537
2007	468	0.888	0.432	46,465,000	88,186	42,868
2008	468	0.889	0.432	54,554,000	103,691	50,379
2009	468	0.890	0.432	62,715,000	119,337	57,959

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	493	0.902	0.450	3,238,074	5,918	2,949
2001	492	0.908	0.451	7,363,653	13,564	6,743
2002	492	0.913	0.453	12,420,847	23,025	11,421
2003	492	0.918	0.454	18,380,250	34,251	16,958
2004	491	0.921	0.455	25,141,031	47,049	23,261
2005	491	0.923	0.456	32,565,601	61,143	30,194
2006	491	0.925	0.456	40,509020	76,253	37,623
2007	491	0.927	0.457	48,802,189	92,048	45,384
2008	491	0.928	0.457	57,298,066	108,232	53,336
2009	491	0.929	0.457	65,869,564	124,563	61,361

Impact Evaluation Plan

The Residential New Construction program includes the installation of varied types of measures. As such, the impact evaluation plan should address interactive effects of multiple measures. In order to capture the impacts of these measures, engineering simulations and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts, although the specific method may vary depending on measure-specific participation levels. These analyses may be supported by residential end-use metering data, where feasible.

Cost-Effectiveness

The economic results of the program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	45,795	40,630	5,165	1.13
Participant	35,305	11,740	23,565	3.01
Total Resource Cost	45,795	17,065	28,730	2.68

PROGRAM: New Construction

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	227	107	0	334	1075	0	1075	-741
2001	509	110	0	619	1299	0	1299	-680
2002	879	112	0	991	1527	0	1527	-536
2003	1309	113	0	1422	1745	0	1745	-323
2004	1789	113	0	1902	1937	0	1937	-35
2005	2321	114	0	2435	2093	0	2093	342
2006	2887	114	0	3001	2223	0	2223	778
2007	3471	116	0	3587	2304	0	2304	1283
2008	4091	117	0	4208	2358	0	2358	1850
2009	4781	117	0	4898	2377	0	2377	2521
2010	4859	0	0	4859	0	0	0	4859
2011	4940	0	0	4940	0	0	0	4940
2012	5025	0	0	5025	0	0	0	5025
2013	5108	0	0	5108	0	0	0	5108
2014	5191	0	0	5191	0	0	0	5191
2015	5279	0	0	5279	0	0	0	5279
2016	5365	0	0	5365	0	0	0	5365
2017	5454	0	0	5454	0	0	0	5454
2018	5542	0	0	5542	0	0	0	5542
2019	5634	0	0	5634	0	0	0	5634
2020	5726	0	0	5726	0	0	0	5726
2021	5821	0	0	5821	0	0	0	5821
2022	5917	0	0	5917	0	0	0	5917
2023	6018	0	0	6018	0	0	0	6018
2024	6115	0	0	6115	0	0	0	6115
2025	6217	0	0	6217	0	0	0	6217
2026	6317	0	0	6317	0	0	0	6317
2027	6422	0	0	6422	0	0	0	6422
2028	6526	0	0	6526	0	0	0	6526
NOMINAL	129740	1133	0	130873	18938	0	18938	111935
NPV	34568	737	0	35305	11740	0	11740	23565

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 3.01

PROGRAM: New Construction

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	117	145	0	0	262	1075	0	0	0	534	1609	-1347
2001	312	332	0	0	644	1299	0	0	0	619	1918	-1274
2002	402	564	348	0	1314	1527	0	0	0	708	2235	-921
2003	627	830	523	0	1980	1745	0	0	0	793	2538	-558
2004	907	1144	0	0	2051	1937	0	0	0	869	2806	-755
2005	2214	1489	804	0	4507	2093	0	0	0	932	3025	1482
2006	4302	1859	1331	0	7492	2223	0	0	0	982	3205	4287
2007	1630	2244	1412	0	5286	2304	0	0	0	1013	3317	1969
2008	3177	2640	267	0	6084	2358	0	0	0	1034	3392	2692
2009	2323	3038	522	0	5883	2377	0	0	0	1041	3418	2465
2010	2855	3038	551	0	6444	0	0	0	0	0	0	6444
2011	2378	3038	555	0	5971	0	0	0	0	0	0	5971
2012	2439	3038	55	0	5532	0	0	0	0	0	0	5532
2013	2459	3038	19	0	5516	0	0	0	0	0	0	5516
2014	2467	3038	54	0	5559	0	0	0	0	0	0	5559
2015	2489	3038	638	0	6165	0	0	0	0	0	0	6165
2016	2526	3038	679	0	6243	0	0	0	0	0	0	6243
2017	2550	3038	678	0	6266	0	0	0	0	0	0	6266
2018	2544	3038	719	0	6301	0	0	0	0	0	0	6301
2019	2567	3038	721	0	6326	0	0	0	0	0	0	6326
2020	2631	3038	767	0	6436	0	0	0	0	0	0	6436
2021	2657	3038	766	0	6461	0	0	0	0	0	0	6461
2022	3226	3038	812	0	7076	0	0	0	0	0	0	7076
2023	2772	3038	1600	0	7410	0	0	0	0	0	0	7410
2024	2775	3038	1637	0	7450	0	0	0	0	0	0	7450
2025	2808	3038	1701	0	7547	0	0	0	0	0	0	7547
2026	3298	3038	1746	0	8082	0	0	0	0	0	0	8082
2027	2893	3038	1808	0	7739	0	0	0	0	0	0	7739
2028	2947	3038	1850	0	7835	0	0	0	0	0	0	7835
NOMINAL	67292	72007	22563	0	161862	18938	0	0	0	8525	27463	134399
NPV	19643	20336	5817	0	45795	11740	0	0	0	5325	17065	28730

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.68

PROGRAM: New Construction

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	117	145	0	0	262	0	0	0	534	107	227	868	-606
2001	312	332	0	0	644	0	0	0	619	110	509	1238	-594
2002	402	564	348	0	1314	0	0	0	708	112	879	1699	-385
2003	627	830	523	0	1980	0	0	0	793	113	1309	2215	-235
2004	907	1144	0	0	2051	0	0	0	869	113	1789	2771	-720
2005	2214	1489	804	0	4507	0	0	0	932	114	2321	3367	1140
2006	4302	1859	1331	0	7492	0	0	0	982	114	2887	3983	3509
2007	1630	2244	1412	0	5286	0	0	0	1013	116	3471	4600	686
2008	3177	2640	267	0	6084	0	0	0	1034	117	4091	5242	842
2009	2323	3038	522	0	5883	0	0	0	1041	117	4781	5939	-56
2010	2855	3038	551	0	6444	0	0	0	0	0	4859	4859	1585
2011	2378	3038	555	0	5971	0	0	0	0	0	4940	4940	1031
2012	2439	3038	55	0	5532	0	0	0	0	0	5025	5025	507
2013	2459	3038	19	0	5516	0	0	0	0	0	5108	5108	408
2014	2467	3038	54	0	5559	0	0	0	0	0	5191	5191	368
2015	2489	3038	638	0	6165	0	0	0	0	0	5279	5279	886
2016	2526	3038	679	0	6243	0	0	0	0	0	5365	5365	878
2017	2550	3038	678	0	6266	0	0	0	0	0	5454	5454	812
2018	2544	3038	719	0	6301	0	0	0	0	0	5542	5542	759
2019	2567	3038	721	0	6326	0	0	0	0	0	5634	5634	692
2020	2631	3038	767	0	6436	0	0	0	0	0	5726	5726	710
2021	2657	3038	766	0	6461	0	0	0	0	0	5821	5821	640
2022	3226	3038	812	0	7076	0	0	0	0	0	5917	5917	1159
2023	2772	3038	1600	0	7410	0	0	0	0	0	6018	6018	1392
2024	2775	3038	1637	0	7450	0	0	0	0	0	6115	6115	1335
2025	2808	3038	1701	0	7547	0	0	0	0	0	6217	6217	1330
2026	3298	3038	1746	0	8082	0	0	0	0	0	6317	6317	1765
2027	2893	3038	1808	0	7739	0	0	0	0	0	6422	6422	1317
2028	2947	3038	1850	0	7835	0	0	0	0	0	6526	6526	1309
NOMINAL	67292	72007	22563	0	161862	0	0	0	8525	1133	129740	139398	22464
NPV	19643	20336	5817	0	45795	0	0	0	5325	737	34568	40630	5165

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.13

D. LOW INCOME WEATHERIZATION ASSISTANCE PROGRAM

Program Start Date: ▸ 2000

Policies and Procedures

The Low-Income Weatherization Assistance program (LIWAP) is the umbrella program to improve energy efficiency for low-income customers in existing residential housing. It combines efficiency improvements to the thermal envelope with upgraded electric appliances. The program seeks to meet the following goals:

- Integrate FPC's LIWAP procedures with the Department of Community Affairs (DCA) and local weatherization providers to deliver energy efficiency measures to low-income families.
- Identify and educate contractors and low income customers about energy saving opportunities to improve home energy efficiency.
- Increase low-income families' participation in FPC's DSM programs.
- Minimize "lost opportunities" in the existing marketplace.

The program provides incentives for attic insulation upgrades, duct testing and repair, reduced air infiltration, water heater wrap, HVAC maintenance, high efficiency heat pumps, heat recovery units, and dedicated heat pump water heaters. The program eligibility requirements to qualify for participation are as follows:

- The residence must be in FPC's service area and be a residential FPC metered customer.
- Must meet Florida's weatherization low-income criteria in addition to income requirements required by DCA.
- Homes must be greater than two years old.
- Homes having previously received FPC incentives for listed measures are not eligible for the same measure. Attic insulation and duct repairs have special exemptions as outlined in the Home Energy Improvement Program.
- A DCA approved provider or their approved contractors must perform all work. FPC approved contractors may be used.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards.

Attic Insulation Upgrade

This portion of the program encourages customers to add insulation to the ceiling area by paying a portion of the installed cost. The home must have an existing insulation level of less than R-12 to participate. The customer must have either whole house electric cooling or electric heating to be eligible for this program. The maximum incentive available will be $100 per residence, the specific incentive is determined by the resulting insulation level.

Duct Test and Repair

This portion of the program is designed to encourage eligible customers to improve their central duct system by reducing the air leakage rate. This is accomplished by performing a duct leakage test, then offering to repair the leakage that is discovered by the duct test. The home must have central ducted electric cooling and electric heat to participate in this measure. For a duct test, FPC will pay up to a maximum of $30 for the first unit and $20 for each additional unit at the same address. For the duct repair, FPC will pay an incentive of up to $100 per unit.

Reduced Air Infiltration

The weatherization provider must demonstrate a minimum reduction of air infiltration into the home of 1500 cfm at 50 pascals to receive a $75 incentive. The home must not exceed ASHRAE Standard 92.2-1989 for acceptable indoor air quality.

Water Heater Wrap/Replacement

The weatherization provider will wrap the water heater with an insulation value of at least R-6 side and R-8 top and insulate the pipes a minimum of 3 feet extending from the tank. The temperature will be set down to 120 degrees. To defray the cost of purchasing a high efficiency water heater, in lieu of installing an insulating jacket, the same $25 incentive would apply.

High Efficiency Electric Heat Pumps

For high efficient electric heat pumps, FPC will provide an incentive up to $350 per unit. The specific incentive available is dependent upon the efficiency level of the unit installed and the type of electric heat the new equipment is replacing. In order to qualify for an incentive, both the air handler and the outdoor condensing unit shall be replaced, and both units shall be new. This program seeks to accommodate emergency replacement situations by allowing a participant to have a home energy audit conducted after the installation and still be eligible for the incentive.

High Efficiency Alternate Water Heating

The high efficiency water heating portion of this program promotes technologies that heat water more efficiently than a standard electric water heater and save energy. The incentive depends on the type of technology being installed. For heat recovery units, FPC will provide an incentive of $100 per residence. For dedicated heat pump water heaters, FPC will provide an incentive of $200 per unit.

Heating and Air Conditioning Maintenance

To maximize efficiency a $40 incentive will be provided for a Heating & Air Conditioning contractor to perform service/tune-up maintenance on existing electric central heating and air conditioning systems.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Measure Participants [3]	Cumulative Penetration Level (%)
2000	1,230,736	1,500	293	20%
2001	1,252,598	3,030	768	25%
2002	1,274,213	4,591	1,293	28%
2003	1,295,656	6,183	1,818	29%
2004	1,316,791	7,808	2,343	30%
2005	1,337,264	9,466	2,868	30%
2006	1,357,066	11,157	3,393	30%
2007	1,376,186	12,882	3,918	30%
2008	1,394,931	14,642	4,443	30%
2009	1,413,612	16,437	4,968	30%

1. *Total Number of Customers is the forecast of all residential customers, from the June 1999 Forecast.*
2. *Total number of Eligible Customers that are weatherized by local weatherization assistance providers.*
3. *Annual Number of Measure Participants is the projected number of cumulative measure installations from all measures promoted by this program. Because customers can install multiple measures, the actual number of participants will be less.*

Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's (1) per customer savings and, (2) annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	354	0.574	0.255	104,000	168	75
2001	360	0.596	0.260	276,000	457	200
2002	354	0.594	0.254	458,000	768	328
2003	352	0.593	0.251	640,000	1,078	457
2004	351	0.592	0.250	822,000	1,388	586
2005	350	0.592	0.249	1,004,000	1,698	714
2006	350	0.592	0.248	1,186,000	2,008	843
2007	349	0.592	0.248	1,369,000	2,318	971
2008	349	0.592	0.248	1,551,000	2,628	1,100
2009	349	0.591	0.247	1,733,000	2,938	1,228

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	371	0.599	0.270	109,231	175	79
2001	378	0.622	0.275	289,882	477	211
2002	371	0.620	0.269	481,037	801	347
2003	369	0.619	0.266	672,192	1,125	483
2004	368	0.618	0.265	863,346	1,448	620
2005	367	0.618	0.264	1,054,501	1,772	755
2006	367	0.618	0.263	1,245,655	2,095	892
2007	366	0.618	0.263	1,437,860	2,419	1,027
2008	366	0.618	0.263	1,629,015	2,743	1,164
2009	366	0.617	0.261	1,820,169	3,066	1,300

Impact Evaluation Plan

The impact evaluation plan for an "umbrella" program such as this requires a varied approach given the number and type of measures being promoted. Some measures provide large per unit impacts while other yield relatively smaller impacts. The total impact from all smaller-impact measures could be potentially less than the uncertainty around an impact estimate of just one large measure. Consequently, the impact evaluation will place greater emphasis on the larger impact measures. The method of impact evaluation may vary depending on the participation levels actually achieved for each measure. Engineering analysis and statistical billing analysis represents the primary methods that will be used to estimate demand and energy impacts. These analyses will be supported by residential end-use metering data.

Cost-Effectiveness

The economic results of the program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	1,630	1,602	28	1.02
Participant	1,330	0	1,330	9999
Total Resource Cost	1,630	272	1,358	5.99

PROGRAM: Low Income Weatherization Assistance

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	8	29	0	37	0	0	0	37
2001	21	48	0	69	0	0	0	69
2002	34	52	0	86	0	0	0	86
2003	48	52	0	100	0	0	0	100
2004	62	52	0	114	0	0	0	114
2005	76	52	0	128	0	0	0	128
2006	90	52	0	142	0	0	0	142
2007	103	52	0	155	0	0	0	155
2008	117	52	0	169	0	0	0	169
2009	133	52	0	185	0	0	0	185
2010	135	0	0	135	0	0	0	135
2011	138	0	0	138	0	0	0	138
2012	145	0	0	145	0	0	0	145
2013	142	0	0	142	0	0	0	142
2014	145	0	0	145	0	0	0	145
2015	147	0	0	147	0	0	0	147
2016	149	0	0	149	0	0	0	149
2017	152	0	0	152	0	0	0	152
2018	154	0	0	154	0	0	0	154
2019	157	0	0	157	0	0	0	157
2020	159	0	0	159	0	0	0	159
2021	162	0	0	162	0	0	0	162
2022	166	0	0	166	0	0	0	166
2023	167	0	0	167	0	0	0	167
2024	170	0	0	170	0	0	0	170
2025	173	0	0	173	0	0	0	173
2026	176	0	0	176	0	0	0	176
2027	179	0	0	179	0	0	0	179
2028	181	0	0	181	0	0	0	181
NOMINAL	3689	493	0	4182	0	0	0	4182
NPV	1013	317	0	1330	0	0	0	1330

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Low Income Weatherization Assistance

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	4	6	0	0	10	0	0	0	0	36	36	-26
2001	11	16	0	0	27	0	0	0	0	41	41	-14
2002	15	26	12	0	53	0	0	0	0	43	43	10
2003	23	36	16	0	75	0	0	0	0	43	43	32
2004	31	47	24	0	102	0	0	0	0	43	43	59
2005	36	57	22	0	115	0	0	0	0	43	43	72
2006	111	68	45	0	224	0	0	0	0	43	43	181
2007	48	78	42	0	168	0	0	0	0	43	43	125
2008	53	89	49	0	191	0	0	0	0	43	43	148
2009	60	99	58	0	217	0	0	0	0	43	43	174
2010	62	99	59	0	220	0	0	0	0	0	0	220
2011	62	99	61	0	222	0	0	0	0	0	0	222
2012	60	99	0	0	159	0	0	0	0	0	0	159
2013	64	99	64	0	227	0	0	0	0	0	0	227
2014	65	99	67	0	231	0	0	0	0	0	0	231
2015	66	99	68	0	233	0	0	0	0	0	0	233
2016	68	99	71	0	238	0	0	0	0	0	0	238
2017	68	99	73	0	240	0	0	0	0	0	0	240
2018	70	99	75	0	244	0	0	0	0	0	0	244
2019	105	99	77	0	281	0	0	0	0	0	0	281
2020	72	99	79	0	250	0	0	0	0	0	0	250
2021	73	99	82	0	254	0	0	0	0	0	0	254
2022	67	99	85	0	251	0	0	0	0	0	0	251
2023	75	99	87	0	261	0	0	0	0	0	0	261
2024	77	99	90	0	266	0	0	0	0	0	0	266
2025	78	99	93	0	270	0	0	0	0	0	0	270
2026	80	99	96	0	275	0	0	0	0	0	0	275
2027	81	99	99	0	279	0	0	0	0	0	0	279
2028	83	99	101	0	283	0	0	0	0	0	0	283
NOMINAL	1768	2403	1695	0	5866	0	0	0	0	421	421	5445
NPV	507	700	422	0	1630	0	0	0	0	272	272	1358

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 5.99

PROGRAM: Low Income Weatherization Assistance

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	4	6	0	0	10	0	0	0	36	29	8	73	-63
2001	11	16	0	0	27	0	0	0	41	48	21	110	-83
2002	15	26	12	0	53	0	0	0	43	52	34	129	-76
2003	23	36	16	0	75	0	0	0	43	52	48	143	-68
2004	31	47	24	0	102	0	0	0	43	52	62	157	-55
2005	36	57	22	0	115	0	0	0	43	52	76	171	-56
2006	111	68	45	0	224	0	0	0	43	52	90	185	39
2007	48	78	42	0	168	0	0	0	43	52	103	198	-30
2008	53	89	49	0	191	0	0	0	43	52	117	212	-21
2009	60	99	58	0	217	0	0	0	43	52	133	228	-11
2010	62	99	59	0	220	0	0	0	0	0	135	135	85
2011	62	99	61	0	222	0	0	0	0	0	138	138	84
2012	60	99	0	0	159	0	0	0	0	0	145	145	14
2013	64	99	64	0	227	0	0	0	0	0	142	142	85
2014	65	99	67	0	231	0	0	0	0	0	145	145	86
2015	66	99	68	0	233	0	0	0	0	0	147	147	86
2016	68	99	71	0	238	0	0	0	0	0	149	149	89
2017	68	99	73	0	240	0	0	0	0	0	152	152	88
2018	70	99	75	0	244	0	0	0	0	0	154	154	90
2019	105	99	77	0	281	0	0	0	0	0	157	157	124
2020	72	99	79	0	250	0	0	0	0	0	159	159	91
2021	73	99	82	0	254	0	0	0	0	0	162	162	92
2022	67	99	85	0	251	0	0	0	0	0	166	166	85
2023	75	99	87	0	261	0	0	0	0	0	167	167	94
2024	77	99	90	0	266	0	0	0	0	0	170	170	96
2025	78	99	93	0	270	0	0	0	0	0	173	173	97
2026	80	99	96	0	275	0	0	0	0	0	176	176	99
2027	81	99	99	0	279	0	0	0	0	0	179	179	100
2028	83	99	101	0	283	0	0	0	0	0	181	181	102
NOMINAL	1768	2403	1695	0	5866	0	0	0	421	493	3689	4603	1263
NPV	507	700	422	0	1630	0	0	0	272	317	1013	1602	28

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.02

E. RESIDENTIAL ENERGY MANAGEMENT PROGRAM

Program Start Date:
- 1981
- Program modified in 1995
- Proposed modification for 2000

Policies and Procedures

Residential Energy Management is a voluntary customer program that allows FPC to reduce peak demand and defer generation construction. Peak demand is reduced by interrupting service to selected electrical equipment with radio controlled switches installed on the customers premises. These controlled interruptions are at FPC's option, during specified time periods, and coincident with hours of peak demand.

FPC has recently determined that it is no longer cost-effective under the RIM test to continue adding new participants to the current Residential Energy Management program, as described in rate schedule RSL-1. (Pages III-33 through III-35 present the results of all three Commission-approved tests of cost-effectiveness.) The Company also recognizes and seeks to balance the broad range of issues associated with a program whose participation rate is about forty-percent of it's entire residential customer base. As a result, FPC is proposing to modify the program in such a way as to improve program cost-effectiveness, ensure adequate near-term reserve margins, minimize customer reaction and inconvenience, and optimize reserve margin mix in the long-term. This proposal involves modifying the current program into two components.

Year-Round Energy Management

The Year-Round Energy Management component of the program will be the current Residential Energy Management Program (rate schedule RSL-1). However, because it is no longer cost-effective to add new participants to the existing program, FPC is proposing to close this component of the program to all customers who are not current participants. All existing Residential Energy Management program participants will be allowed to remain on the year-round program if they do not change their control schedule. Therefore, no existing participants will be affected by this change, as long as they remain on their existing control schedule. Also, prior to April 1, 2001 all new occupants of an active Energy Management equipped residence will be treated as an existing participant and allowed on the year-round component, if they maintain the same Energy Management control schedule as the previous occupants and do not require a service trip. Any participant that alters their current control schedule such that it requires a service trip, will no longer be eligible to continue on this Year-Round component of the program.

Maintaining existing program participants on the Energy Management program through the winter of 2001 is especially important given the relatively large amount of non-firm load provided by this program, as well as the need to provide a minimum fifteen percent reserve margin. Any significant loss of program participation directly increases firm load, and reduces FPC's already tight near-term planned reserve margins. This is the primary reason behind allowing new occupants of an active Energy Management equipped home to automatically continue service under the previous occupants Year-Round Energy Management rate schedule prior to April 1, 2001. In addition, this transition period will provide the time needed to organize and complete the operational components required to actually implement these proposed changes (i.e., contractor support and training, systems programming, etc.). However, the Company also recognizes the need to begin shifting program participation away from the Year-Round Energy Management Component. To meet both of these objectives, FPC proposes to substantially reduce the number of existing participants on the year-round component of the program beginning April 1, 2001. As of this date, FPC expects to have sufficient reserves to allow a ramping down of the year-round program component with no deleterious effects on reserve margins. The ramp-down will be accomplished by no longer offering new occupants of an active Energy Management equipped residence the ability to continue the previous occupant's service under the Year-Round Energy Management rate schedule. This strategy is expected to minimize any negative customer reaction, since it does not affect existing participants that do not change their occupancy status or control schedule.

Proposed changes to the RSL-1 rate schedule (in legislative format) are presented in the Appendix to this document.

Winter-Only Energy Management

The proposed Winter-Only Energy Management component of the program represents a modified, cost-effective version of the current Residential Energy Management program, and is outlined in the proposed new rate schedule RSL-2 (see Appendix). It provides for winter only (November through March) direct load control of customer's electric water heating and central electric heating appliances. Eligible participants must have both appliances on the program and will receive monthly credits during the potential control months. The amount of the credits are identical to those under the current Residential Energy Management program (rate schedule RSL-1) except that they are payable only during the winter months.

Since no new participation will be eligible for the Year-Round Energy Management component, this new Winter Only Energy Management component will enable FPC to continue to provide customers a cost-effective alternative to standard residential service that can help lower their electric bills as well as reduce FPC's winter peak demand. The program solidly passes the RIM Test, with benefit-cost ratios of 1.24. Pages III-37 through III-39 present the results for all three Commission-approved tests of cost-effectiveness.

There are three primary differences between the current Residential Energy Management Program (i.e., proposed Year-Round Residential Energy Management component) and the proposed Winter-Only Energy Management component:

- The current program offers customers a credit for the ability to exercise direct load control on any combination of their electric pool pump, water heating, central heating, and/or central cooling appliances. The proposed Winter-Only Energy Management component only provides a credit for direct load control of electric water heating and central electric heating appliances.

- The current program allows direct load control to be exercised throughout the year and pays an incentive every month of the year. The proposed Winter-Only Energy Management component allows the use of direct load control only during the five winter months of November through March, and only provides a credit during those winter months.

- The current program offers two possible control schedules for electric central heating equipment: 10 minutes maximum control or 16.5 minutes maximum control in any 30 minute period. For the proposed Winter-Only Energy Management component, only one heating schedule will be offered: 16.5 minute maximum control in any 30 minute period.

Program Participation

Cumulative program participation estimates beginning in the year 2000 are shown in the following table, and reflect new equipment installations under the Winter-Only Energy Management component of the program. There are no new participants (i.e., new Energy Management installations) projected for the Year-Round Energy Management component.

Winter-Only Energy Management

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Program Participants [3]	Cumulative Penetration Level (%)
2000	1,230,736	605,337	5,000	.008%
2001	1,252,598	622,827	10,625	.017%
2002	1,274,213	640,119	16,875	.026%
2003	1,295,656	657,273	23,750	.036%
2004	1,316,791	674,181	31,250	.046%
2005	1,337,264	690,560	38,750	.056%
2006	1,357,066	706,401	45,625	.065%
2007	1,376,186	721,697	51,875	.072%
2008	1,394,931	736,693	57,500	.078%
2009	1,413,612	751,638	62,500	.083%

1. *Total Number of Customers is the forecast of all residential customers, from the June 1999 Forecast.*

2. *Total numbers of eligible customers are all residential customers not already on the Residential Energy Management program.*

Savings Estimates

The total program savings shown in the following tables reflect the demand and energy savings associated with the new program participants projected for the Winter-Only Energy Management component of the program. Since there will be no new participants or savings from the Year-Round Energy Management component, only the savings from the Winter-Only component will be used to meet FPC's Commission approved conservation goals.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	2.110	0	0	10,550	0
2001	0	2.110	0	0	22,419	0
2002	0	2.110	0	0	35,606	0
2003	0	2.110	0	0	50,113	0
2004	0	2.110	0	0	65,938	0
2005	0	2.110	0	0	81,763	0
2006	0	2.110	0	0	96,269	0
2007	0	2.110	0	0	109,456	0
2008	0	2.110	0	0	121,325	0
2009	0	2.110	0	0	131,875	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	2.202	0	0	11,012	0
2001	0	2.202	0	0	23,400	0
2002	0	2.202	0	0	37,165	0
2003	0	2.202	0	0	52,307	0
2004	0	2.202	0	0	68,826	0
2005	0	2.202	0	0	85,344	0
2006	0	2.202	0	0	100,485	0
2007	0	2.202	0	0	114,250	0
2008	0	2.202	0	0	126,639	0
2009	0	2.202	0	0	137,651	0

Impact Evaluation Plan

FPC is in the process of conducting a residential end-use metering study that will be used to estimate the appliance level, and duty-cycle impacts of residential load control. This end-use metering data will be used to perform engineering and statistical analysis to estimate the impacts of the program.

Cost-Effectiveness

1. The following economic results for the current year-round Residential Energy Management program:

Current Year-Round Residential Energy Management Program

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	82,516	98,117	-15,601	0.81
Participant	69,545	2	69,543	9999
Total Resource Cost	82,514	28,572	53,942	2.76

PROGRAM: Current (Year-Round) Residential Energy Management

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	5	701	0	706	0	0	0	706
2001	0	1490	0	1490	0	2	2	1488
2002	20	2366	0	2386	0	0	0	2386
2003	21	3331	0	3352	0	0	0	3352
2004	58	4382	0	4440	0	0	0	4440
2005	207	5434	0	5641	0	0	0	5641
2006	377	6398	0	6775	0	0	0	6775
2007	837	7275	0	8112	0	0	0	8112
2008	1327	8063	0	9390	0	0	0	9390
2009	1439	8764	0	10203	0	0	0	10203
2010	1482	8764	0	10246	0	0	0	10246
2011	1486	8764	0	10250	0	0	0	10250
2012	1538	8764	0	10302	0	0	0	10302
2013	1535	8764	0	10299	0	0	0	10299
2014	1583	8764	0	10347	0	0	0	10347
2015	1584	8764	0	10348	0	0	0	10348
2016	1641	8764	0	10405	0	0	0	10405
2017	1637	8764	0	10401	0	0	0	10401
2018	1690	8764	0	10454	0	0	0	10454
2019	1691	8764	0	10455	0	0	0	10455
2020	1729	8764	0	10493	0	0	0	10493
2021	1747	8764	0	10511	0	0	0	10511
2022	1803	8764	0	10567	0	0	0	10567
2023	1804	8764	0	10568	0	0	0	10568
2024	1845	8764	0	10609	0	0	0	10609
2025	1864	8764	0	10628	0	0	0	10628
2026	1927	8764	0	10691	0	0	0	10691
2027	1926	8764	0	10690	0	0	0	10690
2028	1969	8764	0	10733	0	0	0	10733
NOMINAL	36772	214720	0	251492	0	2	2	251490
NPV	8831	60714	0	69545	0	2	2	69543

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Current (Year-Round) Residential Energy Management

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	2	151	0	0	153	0	0	0	0	1863	1863	-1710
2001	0	320	0	0	320	0	29	0	0	2166	2195	-1875
2002	0	508	1488	0	1996	0	1398	0	0	2482	3880	-1884
2003	0	715	1476	0	2191	0	1385	0	0	2813	4198	-2007
2004	0	941	2987	0	3928	0	2514	0	0	3160	5674	-1746
2005	0	1167	3085	0	4252	0	869	0	0	3289	4158	94
2006	0	1374	4131	0	5505	0	1315	0	0	3191	4506	999
2007	0	1562	4104	0	5666	0	752	0	0	3090	3842	1824
2008	3522	1732	5950	0	11204	0	0	0	0	2986	2986	8218
2009	3048	1882	7103	0	12033	0	0	0	0	2877	2877	9156
2010	2809	1882	7219	0	11910	0	0	0	0	1122	1122	10788
2011	2863	1882	7551	0	12296	0	0	0	0	1165	1165	11131
2012	2815	1882	7654	0	12351	0	0	0	0	1211	1211	11140
2013	2779	1882	7937	0	12598	0	0	0	0	1258	1258	11340
2014	2401	1882	8098	0	12381	0	0	0	0	1307	1307	11074
2015	2962	1882	8437	0	13281	0	0	0	0	1358	1358	11923
2016	3062	1882	8664	0	13608	0	0	0	0	1411	1411	12197
2017	3170	1882	8968	0	14020	0	0	0	0	1466	1466	12554
2018	3171	1882	9167	0	14220	0	0	0	0	1523	1523	12697
2019	3358	1882	9532	0	14772	0	0	0	0	1583	1583	13189
2020	3198	1882	9484	0	14564	0	0	0	0	1644	1644	12920
2021	3584	1882	10133	0	15599	0	0	0	0	1709	1709	13890
2022	3804	1882	10357	0	16043	0	0	0	0	1775	1775	14268
2023	3832	1882	10770	0	16484	0	0	0	0	1850	1850	14634
2024	3573	1882	10716	0	16171	0	0	0	0	1927	1927	14244
2025	4015	1882	11449	0	17346	0	0	0	0	2008	2008	15338
2026	4660	1882	11723	0	18265	0	0	0	0	2093	2093	16172
2027	4329	1882	12169	0	18380	0	0	0	0	2181	2181	16199
2028	4078	1882	12108	0	18068	0	0	0	0	2272	2272	15796
NOMINAL	71035	46110	212460	0	329605	0	8262	0	0	58780	67042	262563
NPV	15963	13585	52966	0	82514	0	5450	0	0	23122	28572	53942

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.76

PROGRAM: Current (Year-Round) Residential Energy Management

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	2	151	0	0	153	0	0	0	1863	701	5	2569	-2416
2001	0	320	0	2	322	29	0	0	2166	1490	0	3685	-3363
2002	0	508	1488	0	1996	1398	0	0	2482	2366	20	6266	-4270
2003	0	715	1476	0	2191	1385	0	0	2813	3331	21	7550	-5359
2004	0	941	2987	0	3928	2514	0	0	3160	4382	58	10114	-6186
2005	0	1167	3085	0	4252	869	0	0	3289	5434	207	9799	-5547
2006	0	1374	4131	0	5505	1315	0	0	3191	6398	377	11281	-5776
2007	0	1562	4104	0	5666	752	0	0	3090	7275	837	11954	-6288
2008	3522	1732	5950	0	11204	0	0	0	2986	8063	1327	12376	-1172
2009	3048	1882	7103	0	12033	0	0	0	2877	8764	1439	13080	-1047
2010	2809	1882	7219	0	11910	0	0	0	1122	8764	1482	11368	542
2011	2863	1882	7551	0	12296	0	0	0	1165	8764	1486	11415	881
2012	2815	1882	7654	0	12351	0	0	0	1211	8764	1538	11513	838
2013	2779	1882	7937	0	12598	0	0	0	1258	8764	1535	11557	1041
2014	2401	1882	8098	0	12381	0	0	0	1307	8764	1583	11654	727
2015	2962	1882	8437	0	13281	0	0	0	1358	8764	1584	11706	1575
2016	3062	1882	8664	0	13608	0	0	0	1411	8764	1641	11816	1792
2017	3170	1882	8968	0	14020	0	0	0	1466	8764	1637	11867	2153
2018	3171	1882	9167	0	14220	0	0	0	1523	8764	1690	11977	2243
2019	3358	1882	9532	0	14772	0	0	0	1583	8764	1691	12038	2734
2020	3198	1882	9484	0	14564	0	0	0	1644	8764	1729	12137	2427
2021	3584	1882	10133	0	15599	0	0	0	1709	8764	1747	12220	3379
2022	3804	1882	10357	0	16043	0	0	0	1775	8764	1803	12342	3701
2023	3832	1882	10770	0	16484	0	0	0	1850	8764	1804	12418	4066
2024	3573	1882	10716	0	16171	0	0	0	1927	8764	1845	12536	3635
2025	4015	1882	11449	0	17346	0	0	0	2008	8764	1864	12636	4710
2026	4660	1882	11723	0	18265	0	0	0	2093	8764	1927	12784	5481
2027	4329	1882	12169	0	18380	0	0	0	2181	8764	1926	12871	5509
2028	4078	1882	12108	0	18068	0	0	0	2272	8764	1969	13005	5063
NOMINAL	71035	46110	212460	2	329607	8262	0	0	58780	214720	36772	318534	11073
NPV	15963	13585	52966	2	82516	5450	0	0	23122	60714	8831	98117	-15601

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 0.81

Cost-Effectiveness (Cont'd)

2. The following economic results are for the proposed new Winter-Only Energy Management program component:

Winter-Only Energy Management

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	37,282	28,800	8,482	1.24
Participant	11,277	0	11,277	9999
Total Resource Cost	37,282	17,524	19,759	2.05

PROGRAM: Winter-Only Residential Energy Management

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	1	124	0	125	0	0	0	125
2001	0	264	0	264	0	0	0	264
2002	4	419	0	423	0	0	0	423
2003	2	589	0	591	0	0	0	591
2004	21	775	0	796	0	0	0	796
2005	19	961	0	980	0	0	0	980
2006	49	1132	0	1181	0	0	0	1181
2007	51	1287	0	1338	0	0	0	1338
2008	84	1426	0	1510	0	0	0	1510
2009	78	1550	0	1628	0	0	0	1628
2010	88	1550	0	1638	0	0	0	1638
2011	81	1550	0	1631	0	0	0	1631
2012	88	1550	0	1638	0	0	0	1638
2013	81	1550	0	1631	0	0	0	1631
2014	94	1550	0	1644	0	0	0	1644
2015	84	1550	0	1634	0	0	0	1634
2016	97	1550	0	1647	0	0	0	1647
2017	87	1550	0	1637	0	0	0	1637
2018	102	1550	0	1652	0	0	0	1652
2019	89	1550	0	1639	0	0	0	1639
2020	105	1550	0	1655	0	0	0	1655
2021	92	1550	0	1642	0	0	0	1642
2022	109	1550	0	1659	0	0	0	1659
2023	95	1550	0	1645	0	0	0	1645
2024	113	1550	0	1663	0	0	0	1663
2025	99	1550	0	1649	0	0	0	1649
2026	116	1550	0	1666	0	0	0	1666
2027	102	1550	0	1652	0	0	0	1652
2028	122	1550	0	1672	0	0	0	1672
NOMINAL	2153	37977	0	40130	0	0	0	40130
NPV	540	10737	0	11277	0	0	0	11277

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Winter-Only Residential Energy Management

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) **TOTAL BENEFITS** $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) **TOTAL COSTS** $(000)	(12) **NET BENEFITS** $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	1	90	0	0	91	0	0	0	0	976	976	-885
2001	0	191	0	0	191	0	5	0	0	1087	1092	-901
2002	0	304	780	0	1084	0	770	0	0	1203	1973	-889
2003	0	427	882	0	1309	0	808	0	0	1324	2132	-823
2004	0	562	1652	0	2214	0	1588	0	0	1450	3038	-824
2005	0	697	1582	0	2279	0	1467	0	0	1496	2963	-684
2006	18	821	2343	0	3182	0	0	0	0	1459	1459	1723
2007	0	933	2767	0	3700	0	508	0	0	1420	1928	1772
2008	0	1034	3380	0	4414	0	729	0	0	1381	2110	2304
2009	0	1124	3804	0	4928	0	693	0	0	1340	2033	2895
2010	0	1124	3869	0	4993	0	682	0	0	692	1374	3619
2011	0	1124	4044	0	5168	0	661	0	0	708	1369	3799
2012	0	1124	4125	0	5249	0	638	0	0	724	1362	3887
2013	0	1124	4303	0	5427	0	603	0	0	741	1344	4083
2014	0	1124	4401	0	5525	0	602	0	0	758	1360	4165
2015	0	1124	4574	0	5698	0	563	0	0	777	1340	4358
2016	0	1124	4674	0	5798	0	543	0	0	796	1339	4459
2017	0	1124	4862	0	5986	0	518	0	0	815	1333	4653
2018	0	1124	4979	0	6103	0	475	0	0	836	1311	4792
2019	0	1124	5168	0	6292	0	444	0	0	857	1301	4991
2020	0	1124	5295	0	6419	0	406	0	0	879	1285	5134
2021	0	1124	5493	0	6617	0	389	0	0	902	1291	5326
2022	0	1124	5625	0	6749	0	373	0	0	926	1299	5450
2023	0	1124	5839	0	6963	0	333	0	0	953	1286	5677
2024	0	1124	5983	0	7107	0	110	0	0	981	1091	6016
2025	0	1124	6207	0	7331	0	271	0	0	1010	1281	6050
2026	0	1124	6356	0	7480	0	240	0	0	1040	1280	6200
2027	0	1124	6598	0	7722	0	210	0	0	1071	1281	6441
2028	217	1124	6769	0	8110	0	0	0	0	1104	1104	7006
NOMINAL	236	27539	116354	0	144129	0	14629	0	0	29706	44335	99794
NPV	31	8114	29137	0	37282	0	6100	0	0	11424	17524	19759

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.05

PROGRAM: Winter-Only Residential Energy Management

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	1	90	0	0	91	0	0	0	976	124	1	1101	-1010
2001	0	191	0	0	191	5	0	0	1087	264	0	1356	-1165
2002	0	304	780	0	1084	770	0	0	1203	419	4	2396	-1312
2003	0	427	882	0	1309	808	0	0	1324	589	2	2723	-1414
2004	0	562	1652	0	2214	1588	0	0	1450	775	21	3834	-1620
2005	0	697	1582	0	2279	1467	0	0	1496	961	19	3943	-1664
2006	18	821	2343	0	3182	0	0	0	1459	1132	49	2640	542
2007	0	933	2767	0	3700	508	0	0	1420	1287	51	3266	434
2008	0	1034	3380	0	4414	729	0	0	1381	1426	84	3620	794
2009	0	1124	3804	0	4928	693	0	0	1340	1550	78	3661	1267
2010	0	1124	3869	0	4993	682	0	0	692	1550	88	3012	1981
2011	0	1124	4044	0	5168	661	0	0	708	1550	81	3000	2168
2012	0	1124	4125	0	5249	638	0	0	724	1550	88	3000	2249
2013	0	1124	4303	0	5427	603	0	0	741	1550	81	2975	2452
2014	0	1124	4401	0	5525	602	0	0	758	1550	94	3004	2521
2015	0	1124	4574	0	5698	563	0	0	777	1550	84	2974	2724
2016	0	1124	4674	0	5798	543	0	0	796	1550	97	2986	2812
2017	0	1124	4862	0	5986	518	0	0	815	1550	87	2970	3016
2018	0	1124	4979	0	6103	475	0	0	836	1550	102	2963	3140
2019	0	1124	5168	0	6292	444	0	0	857	1550	89	2940	3352
2020	0	1124	5295	0	6419	406	0	0	879	1550	105	2940	3479
2021	0	1124	5493	0	6617	389	0	0	902	1550	92	2933	3684
2022	0	1124	5625	0	6749	373	0	0	926	1550	109	2958	3791
2023	0	1124	5839	0	6963	333	0	0	953	1550	95	2931	4032
2024	0	1124	5983	0	7107	110	0	0	981	1550	113	2754	4353
2025	0	1124	6207	0	7331	271	0	0	1010	1550	99	2930	4401
2026	0	1124	6356	0	7480	240	0	0	1040	1550	116	2946	4534
2027	0	1124	6598	0	7722	210	0	0	1071	1550	102	2933	4789
2028	217	1124	6769	0	8110	0	0	0	1104	1550	122	2776	5334
NOMINAL	236	27539	116354	0	144129	14629	0	0	29706	37977	2153	84465	59664
NPV	31	8114	29137	0	37282	6100	0	0	11424	10737	540	28800	8482

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.24

IV. COMMERCIAL/INDUSTRIAL CONSERVATION PROGRAMS

IV. COMMERCIAL/INDUSTRIAL CONSERVATION PROGRAMS

Florida Power Corporation's DSM Plan includes eight (8) commercial/industrial programs:

A. **Business Energy Check** - C/I energy audits

B. **Better Business** - "umbrella" program for existing facilities

C. **C/I New Construction** - "umbrella" program for new construction facilities

D. **Innovation Incentive** - custom measures

E. **Commercial Energy Management** - C/I load control: Rate Tariff GSLM-1

F. **Standby Generation** - Rate Tariff GSLM-2

G. **Interruptible Service** - Rate Tariff IS-2

H. **Curtailable Service** - Rate Tariff CS-2

Each program is described in detail in the following sections.

A. BUSINESS ENERGY CHECK PROGRAM

Program Start Date: • 1995

Policies and Procedures

The Business Energy Check is FPC's energy audit program. It provides commercial and industrial (C/I) customers with an assessment of the current energy usage at their facility and information on low-cost energy efficiency measures. This program serves as the foundation for FPC's other DSM programs targeted toward existing C/I construction and, in most cases, it is a prerequisite for participation in the other C/I programs.

The Business Energy Check consists of two types of audits:

Level 1: Free Walk-Through Audit (Inspection)

Level 2: Paid Walk-Through Audit (Energy Analysis)

All commercial, industrial, and governmental retail customers of FPC are eligible to have either level conducted on any of their buildings located in FPC's service territory. There is no charge for the Level 1 inspection, while there is a nominal customer charge for the Level 2 energy analysis. When a customer requests a Business Energy Check, they will be given the option of scheduling a Level 1 inspection or a Level 2 energy analysis. The specific details on the procedures for each level of audit will be presented in the Program Participation Standards.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Program Participants [2]	Cumulative Penetration Level (%)
2000	163,576	145,483	1,000	1%
2001	166,984	148,335	2,000	1%
2002	170,356	151,155	3,000	2%
2003	173,705	153,952	4,000	3%
2004	177,016	156,710	5,000	3%
2005	180,239	159,380	6,000	4%
2006	183,373	161,963	7,000	4%
2007	186,419	164,456	8,000	5%
2008	189,416	166,901	9,000	5%
2009	192,406	169,338	10,000	6%

1. *Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.*
2. *Annual Number of Program Participants is the cumulative number of audits that are projected to be conducted.*

Savings Estimates

The total program savings were developed based on historical FPC audits and a review of C/I audit impacts. These estimates include impacts directly resulting from the standard audit recommendations, including the installation of low-cost energy efficiency measures. In addition, customer-specific savings may result from site-specific recommendations that the auditor makes at the time of the audit, but which are not included in the standard audit form. These impacts will be calculated on a case-by-case basis and added to the standard impacts. The total program savings are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	300	0.14	0.14	300,000	140	140
2001	300	0.14	0.14	600,000	280	280
2002	300	0.14	0.14	900,000	420	420
2003	300	0.14	0.14	1,200,000	560	560
2004	300	0.14	0.14	1,500,000	700	700
2005	300	0.14	0.14	1,800,000	840	840
2006	300	0.14	0.14	2,100,000	980	980
2007	300	0.14	0.14	2,400,000	1,120	1,120
2008	300	0.14	0.14	2,700,000	1,260	1,260
2009	300	0.14	0.14	3,000,000	1,400	1,400

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	315	0.15	0.15	315,270	146	148
2001	315	0.15	0.15	630,540	293	295
2002	315	0.15	0.15	945,810	439	443
2003	315	0.15	0.15	1,261,080	586	591
2004	315	0.15	0.15	1,576,350	732	739
2005	315	0.15	0.15	1,891,620	879	886
2006	315	0.15	0.15	2,206,890	1,025	1,034
2007	315	0.15	0.15	2,522,160	1,172	1,182
2008	315	0.15	0.15	2,837,430	1,318	1,330
2009	315	0.15	0.15	3,152,700	1,465	1,477

Impact Evaluation Plan

The range of possible recommendations resulting from the audit, and the inclusion of both technological and behavioral recommendations suggests the need to carefully survey participants to determine what specific actions have been undertaken due to the completed audit. Initially, the use of site-specific engineering estimates is likely to be the most cost-effective method of estimating program impacts, although the use of statistical analysis technique may also be considered, depending on the participation levels actually achieved.

B. BETTER BUSINESS PROGRAM

Program Start Date:
- 1995
- Proposed modification for 2000

Policies and Procedures

The Better Business program is the umbrella efficiency program for existing commercial and industrial customers. Better Business builds on the Business Energy Check by using the audit to initiate FPC involvement in the customer's facility (participating in Business Energy Check is a prerequisite for receiving most of the incentives). This program provides customers with information, education, and advice on energy-related issues and incentives on efficiency measures that are cost-effective to FPC and its customers. Better Business promotes energy efficient heating, ventilation, air conditioning, motors, and some building retrofit measures (in particular, roof insulation upgrade, duct leakage test and repair, and window film retrofit). FPC proposes to remove incentives for Heat Recovery Units, which have previously been offered through this program.

The general eligibility requirements are as follows:

- The participant must be a FPC commercial, industrial, or governmental customer.
- Equipment must be installed in facilities located in the FPC service territory and served by a metered FPC account.
- A Business Energy Check audit (Level 1 or 2) must be completed prior to the purchase or installation of all measures (with the exception of motors).
- The participant must be willing to allow FPC to inspect the installation of all measures and equipment prior to receiving any incentive payments.
- All equipment installations shall meet manufacturers' instructions and specifications.

Incentive levels and specific eligibility requirements for each measure promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, evaluation findings, or technological advances.

HVAC Equipment

The HVAC equipment component of Better Business provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of very high efficiency unitary heat pumps and air conditioners, packaged rooftop units, packaged terminal heat pumps (PTHPs), and water-cooled and air-cooled chillers. The incentive is calculated for each unit based on the kW difference between the high efficiency unit and the program-specified baseline efficiency (at ARI Standard Test Rating Conditions) and is calculated using a dollar per kW reduced incentive up to a maximum of $100/kW reduced.

Motors

The program promotes the installation of high efficiency polyphase motors through a simple incentive structure. The incentive for any given motor is calculated based on the motor size and a specified $/hp. The maximum incentive amount will be $2.00 per hp and the specific incentive amount will be a function of the motor size. To maintain cost-effectiveness, a minimum number of motors per application will be established for motors that are 25 hp and smaller. The Business Energy Check is not required to receive this incentive.

Roof Insulation Upgrade

This portion of the program encourages customers who have electric space heat to add insulation to the roof area by paying for a portion of the installed cost. The facility must have an existing roof insulation level less than R-12 to participate and must be heated by electricity in order to receive the incentive. Heat loss and heat gain calculations must show that the additional insulation would result in heating and/or cooling energy use reductions in order to be eligible for an incentive. The maximum incentive amount will be $100 per customer and the specific incentive amount that a customer is eligible to receive will be a function of the resulting insulation level.

Duct Leakage Test and Repair

This portion of the program is designed to promote energy efficiency through improved duct system sealing. Through the use of an inspection tool, such as a blower-door, duct leaks can be identified and repaired. This program component applies to HVAC equipment and systems that are no larger than 65,000 Btu/h. A customer must have electric heating (no facilities with combustion appliances are allowed to participate) and a centrally-ducted cooling system, either air conditioning or heat pump, to be eligible for this program. If a building has excess ventilation such that the building can not be pressurized, the building may not be eligible for participation. For the duct test, FPC will pay an incentive of up to a maximum of $30 for the first unit tested and $20 for each additional unit tested. For the duct repair, FPC will pay an incentive of up to a maximum of $100 per unit. The duct repair incentive amount is dependent on the type of electric heating system.

Window Film

FPC will provide customers with an incentive to install window film having a shading coefficient of 0.45 or less on existing east or west windows with shading coefficients of 0.84 or higher. The maximum incentive will be a flat amount per square-foot of window film installed. The total incentive per customer can not exceed $125. An exception to this limitation will be made for facilities with multiple guest rooms, such as hotels, motels, hospitals, and assisted-care living facilities, which may receive incentives up to a maximum of $50 per room.

Financing

FPC is also offering interest-free installment billing (over a 12-month period). As an alternative to receiving an incentive payment, customers may opt to finance up to $500 through installment billing. Installment billing allows the customer to spread the cost over 12 months at no interest. The installment billing payments will be billed monthly.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Measure Participants [2]	Cumulative Penetration Level (%)
2000	938,991	938,991	4,123	0.4%
2001	966,999	966,999	8,151	1%
2002	996,029	996,029	12,347	1%
2003	1,026,116	1,026,116	16,571	2%
2004	1,048,843	1,048,843	20,756	2%
2005	1,072,198	1,072,198	24,947	2%
2006	1,096,103	1,096,103	28,693	3%
2007	1,120,653	1,120,653	32,260	3%
2008	1,139,300	1,139,300	35,714	3%
2009	1,158,339	1,158,339	39,001	3%

1. *Total Number of Customers is the forecast of commercial floorspace (in 000s of sq.ft.).*
2. *Annual Number of Measure Participants is the cumulative floorspace (in 000s sq.ft.) projected to participate, assuming no measure overlap.*

Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's (1) per customer savings and, (2) annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

At the Meter						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	337	0.14	0.19	1,390,261	560	787
2001	302	0.13	0.16	2,464,851	1,049	1,297
2002	290	0.12	0.15	3,575,760	1,532	1,847
2003	283	0.12	0.14	4,695,076	2,019	2,400
2004	281	0.12	0.14	5,830,782	2,514	2,962
2005	281	0.12	0.14	7,013,017	3,016	3,561
2006	281	0.12	0.14	8,076,121	3,471	4,094
2007	284	0.12	0.14	9,162,477	3,932	4,647
2008	282	0.12	0.14	10,082,487	4,374	5,021
2009	288	0.12	0.14	11,228,961	4,841	5,628

At the Generator						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	354	0.14	0.20	1,460,973	586	831
2001	318	0.13	0.17	2,590,312	1,098	1,368
2002	304	0.13	0.16	3,757,766	1,603	1,949
2003	298	0.13	0.15	4,934,055	2,113	2,533
2004	295	0.13	0.15	6,127,569	2,631	3,126
2005	295	0.13	0.15	7,369,980	3,156	3,758
2006	296	0.13	0.15	8,487,196	3,632	4,321
2007	298	0.13	0.15	9,628,847	4,114	4,904
2008	297	0.13	0.15	10,595,686	4,576	5,299
2009	303	0.13	0.15	11,800,515	5,066	5,940

Per measure impacts for 2000-2009 are per 1000 sq.ft., assuming no overlap.

Per measure impacts vary from year to year because of the changing mix of measures assumed to be installed in any given year.

Impact Evaluation Plan

The impact evaluation plan for an "umbrella" program such as this requires a varied approach given the number and type of measures being promoted. Some measures provide large per unit impacts while others yield relatively smaller impacts. The total impact from all smaller-impact measures could potentially be less than the uncertainty around an impact estimate of just one large-impact measure. Consequently, the impact evaluation will place greater emphasis on the larger-impact measures. The method of impact evaluation may vary depending on the participation levels actually achieved for each measure. Engineering analysis and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts. On-site metering may also be used where feasible and cost-effective.

Cost Effectiveness

The economic results of the program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	6,537	5,776	761	1.13
Participant	5,602	1,963	3,639	2.85
Total Resource Cost	6,537	2,137	4,400	3.06

PROGRAM: Better Business

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	77	55	0	132	524	0	524	-392
2001	134	54	0	188	251	0	251	-63
2002	201	58	0	259	293	0	293	-34
2003	266	53	0	319	231	0	231	88
2004	332	54	0	386	235	0	235	151
2005	402	58	0	460	277	0	277	183
2006	465	52	0	517	237	0	237	280
2007	531	54	0	585	255	0	255	330
2008	600	58	0	658	294	0	294	364
2009	677	60	0	737	316	0	316	421
2010	687	0	0	687	0	0	0	687
2011	698	0	0	698	0	0	0	698
2012	709	0	0	709	0	0	0	709
2013	720	0	0	720	0	0	0	720
2014	731	0	0	731	0	0	0	731
2015	742	0	0	742	0	0	0	742
2016	754	0	0	754	0	0	0	754
2017	765	0	0	765	0	0	0	765
2018	777	0	0	777	0	0	0	777
2019	789	0	0	789	0	0	0	789
2020	801	0	0	801	0	0	0	801
2021	814	0	0	814	0	0	0	814
2022	827	0	0	827	0	0	0	827
2023	839	0	0	839	0	0	0	839
2024	852	0	0	852	0	0	0	852
2025	866	0	0	866	0	0	0	866
2026	879	0	0	879	0	0	0	879
2027	893	0	0	893	0	0	0	893
2028	906	0	0	906	0	0	0	906
NOMINAL	18734	556	0	19290	2913	0	2913	16377
NPV	5239	363	0	5602	1963	0	1963	3639

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 2.85

PROGRAM: Better Business

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	43	37	0	0	80	524	0	0	0	26	550	-470
2001	107	59	0	0	166	251	0	0	0	26	277	-111
2002	102	87	26	0	215	293	0	0	0	28	321	-106
2003	143	112	38	0	293	231	0	0	0	26	257	36
2004	186	138	24	0	348	235	0	0	0	26	261	87
2005	1332	165	54	0	1551	277	0	0	0	27	304	1247
2006	312	189	40	0	541	237	0	0	0	26	263	278
2007	286	214	45	0	545	255	0	0	0	27	282	263
2008	1468	241	46	0	1755	294	0	0	0	28	322	1433
2009	366	268	55	0	689	316	0	0	0	28	344	345
2010	500	268	55	0	823	0	0	0	0	0	0	823
2011	374	268	59	0	701	0	0	0	0	0	0	701
2012	377	268	0	0	645	0	0	0	0	0	0	645
2013	382	268	63	0	713	0	0	0	0	0	0	713
2014	362	268	63	0	693	0	0	0	0	0	0	693
2015	391	268	67	0	726	0	0	0	0	0	0	726
2016	398	268	66	0	732	0	0	0	0	0	0	732
2017	399	268	72	0	739	0	0	0	0	0	0	739
2018	406	268	71	0	745	0	0	0	0	0	0	745
2019	407	268	76	0	751	0	0	0	0	0	0	751
2020	413	268	75	0	756	0	0	0	0	0	0	756
2021	415	268	81	0	764	0	0	0	0	0	0	764
2022	417	268	80	0	765	0	0	0	0	0	0	765
2023	425	268	86	0	779	0	0	0	0	0	0	779
2024	435	268	84	0	787	0	0	0	0	0	0	787
2025	437	268	91	0	796	0	0	0	0	0	0	796
2026	446	268	92	0	806	0	0	0	0	0	0	806
2027	448	268	97	0	813	0	0	0	0	0	0	813
2028	457	268	95	0	820	0	0	0	0	0	0	820
NOMINAL	12234	6602	1701	0	20537	2913	0	0	0	268	3181	17356
NPV	4113	1970	454	0	6537	1963	0	0	0	174	2137	4400

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 3.06

PROGRAM: Better Business

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	43	37	0	0	80	0	0	0	26	55	77	158	-78
2001	107	59	0	0	166	0	0	0	26	54	134	214	-48
2002	102	87	26	0	215	0	0	0	28	58	201	287	-72
2003	143	112	38	0	293	0	0	0	26	53	266	345	-52
2004	186	138	24	0	348	0	0	0	26	54	332	412	-64
2005	1332	165	54	0	1551	0	0	0	27	58	402	487	1064
2006	312	189	40	0	541	0	0	0	26	52	465	543	-2
2007	286	214	45	0	545	0	0	0	27	54	531	612	-67
2008	1468	241	46	0	1755	0	0	0	28	58	600	686	1069
2009	366	268	55	0	689	0	0	0	28	60	677	765	-76
2010	500	268	55	0	823	0	0	0	0	0	687	687	136
2011	374	268	59	0	701	0	0	0	0	0	698	698	3
2012	377	268	0	0	645	0	0	0	0	0	709	709	-64
2013	382	268	63	0	713	0	0	0	0	0	720	720	-7
2014	362	268	63	0	693	0	0	0	0	0	731	731	-38
2015	391	268	67	0	726	0	0	0	0	0	742	742	-16
2016	398	268	66	0	732	0	0	0	0	0	754	754	-22
2017	399	268	72	0	739	0	0	0	0	0	765	765	-26
2018	406	268	71	0	745	0	0	0	0	0	777	777	-32
2019	407	268	76	0	751	0	0	0	0	0	789	789	-38
2020	413	268	75	0	756	0	0	0	0	0	801	801	-45
2021	415	268	81	0	764	0	0	0	0	0	814	814	-50
2022	417	268	80	0	765	0	0	0	0	0	827	827	-62
2023	425	268	86	0	779	0	0	0	0	0	839	839	-60
2024	435	268	84	0	787	0	0	0	0	0	852	852	-65
2025	437	268	91	0	796	0	0	0	0	0	866	866	-70
2026	446	268	92	0	806	0	0	0	0	0	879	879	-73
2027	448	268	97	0	813	0	0	0	0	0	893	893	-80
2028	457	268	95	0	820	0	0	0	0	0	906	906	-86
NOMINAL	12234	6602	1701	0	20537	0	0	0	268	556	18734	19558	979
NPV	4113	1970	454	0	6537	0	0	0	174	363	5239	5776	761

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.13

C. COMMERCIAL/INDUSTRIAL NEW CONSTRUCTION PROGRAM

Program Start Date: ▸ 1995

▸ Proposed modification for 2000

Policies and Procedures

The primary goal of the FPC's Commercial/Industrial (C/I) New Construction program is to foster the design and construction of energy efficient buildings. The new construction program will: 1) provide education and information to the design community on all aspects of energy efficient building design; 2) require that the building design, at a minimum, surpass the state energy code; 3) provide financial incentives for specific energy efficient equipment; and 4) provide energy design awards to building design teams. The program will simultaneously target building developers/owners and the building design community and will work one-on-one with them throughout a new construction project. FPC will focus on developing relationships with the key decision-makers of commercial and industrial new construction so as to be able to get involved early in the design process. FPC proposes to remove incentives for Duct Leakage Testing and Repair, which have previously been offered through this program.

The general eligibility requirements are as follows:

- The new construction project location must be established within FPC's service territory.
- The new construction building must be served by a FPC account prior to the issuance of any incentive payment.
- The participant must be willing to allow FPC to inspect the installation of all measures and equipment prior to receiving any incentive payments.
- All equipment installations shall meet manufacturers' instructions and specifications.

Incentives will be provided for high efficiency HVAC equipment, motors, and heat recovery units. Incentive levels and specific eligibility requirements for each of the measures promoted in this program will be presented in the Program Participation Standards and will be subject to revision based on changes in market conditions, such as baseline or code revisions, evaluation findings, or technological advances.

HVAC Equipment

The HVAC equipment component of C/I New Construction provides customers with information on high efficiency HVAC equipment and financial incentives for the purchase of very high efficiency unitary heat pumps and air conditioners, packaged rooftop units, packaged terminal heat pumps (PTHPs), and water-cooled and air-cooled chillers. The incentive is calculated for

each unit based on the kW difference between the high efficiency unit and the program-specified baseline efficiency (at ARI Standard Test Rating Conditions) and is calculated using a dollar per kW reduced incentive up to $100/kW reduced.

Motors

The program promotes the installation of high efficiency polyphase motors through a simple incentive structure. The incentive for any given motor is calculated based on the motor size and a specified $/hp. The maximum incentive amount will be up to $2.00 per hp and the specific incentive amount will be a function of the motor size. To maintain cost-effectiveness, a minimum number of motors per application will be established for motors that are 25 hp and smaller.

Heat Recovery Units

The program promotes the installation of heat recovery units for water heating by providing an incentive for each unit installed. FPC will pay a maximum incentive of up to $100 per unit when installed on heat pumps or straight air units that are five tons or less.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Measure Participants [3]	Cumulative Penetration Level (%)
2000	938,991	27,037	1,613	6%
2001	966,999	55,045	3,154	6%
2002	996,029	84,075	4,912	6%
2003	1,026,116	114,162	6,892	6%
2004	1,048,843	136,889	9,085	7%
2005	1,072,198	160,245	11,464	7%
2006	1,096,103	184,149	13,811	7%
2007	1,120,653	208,700	16,248	8%
2008	1,139,300	227,346	18,777	8%
2009	1,158,339	246,385	21,349	9%

1. *Total Number of Customers is the forecast of commercial floorspace (in 000s of sq.ft.).*
2. *Total Number of Eligible Customers is the forecast of cumulative commercial floorspace additions after 1999 (in 000s of sq.ft.),*
3. *Annual Number of Measure Participants is the cumulative floorspace (in 000s of sq.ft.) projected to participate, assuming no measure overlap.*

Savings Estimates

Total program savings were developed by first estimating the total savings for each individual measure based on each measure's (1) per customer savings and, (2) annual projected participation. The total program savings were then computed as the sum of the individual measure savings, and are shown in the following tables.

At the Meter						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	226	0.13	0.15	364,326	214	248
2001	216	0.13	0.14	679,977	395	455
2002	207	0.12	0.14	1,016,653	584	669
2003	199	0.11	0.13	1,374,479	782	889
2004	193	0.11	0.12	1,753,030	989	1,116
2005	188	0.11	0.12	2,150,031	1,204	1,349
2006	183	0.10	0.11	2,531,132	1,408	1,569
2007	180	0.10	0.11	2,922,778	1,618	1,793
2008	177	0.10	0.11	3,325,734	1,833	2,022
2009	175	0.10	0.11	3,736,460	2,052	2,256

At the Generator						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	237	0.14	0.16	382,870	2245	261
2001	227	0.13	0.15	714,588	413	480
2002	218	0.12	0.14	1,068,401	611	706
2003	210	0.12	0.14	1,444,440	818	938
2004	203	0.11	0.13	1,842,259	1,036	1,178
2005	197	0.11	0.12	2,259,468	1,260	1,423
2006	193	0.11	0.12	2,659,967	1,474	1,655
2007	189	0.10	0.12	3,071,547	1,693	1,892
2008	186	0.10	0.11	3,495,014	1,918	2,134
2009	184	0.10	0.11	3,926,646	2,147	2,381

Per measure impacts for 2000-2009 are per 1000 sq.ft., assuming no overlap.

Per measure impacts vary from year to year because of the changing mix of measures assumed to be installed in any given year.

Impact Evaluation Plan

The impact evaluation plan for an "umbrella" program such as this requires a varied approach, given the number and type of measures being promoted. Some measures provide large per unit impacts while others yield relatively smaller impacts. The total impact from all smaller-impact measures could potentially be less than the uncertainty around an impact estimate of just one large-impact measure. Consequently, the impact evaluation will place greater emphasis on the larger-impact measures. The method of impact evaluation may vary depending on the participation levels actually achieved for each measure. Engineering analysis and statistical billing analysis will represent the primary methods used to estimate demand and energy impacts. On-site metering may also be used, where feasible and cost-effective.

Cost Effectiveness

The economic results of the program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	1,948	1,855	93	1.05
Participant	1,727	448	1,279	3.86
Total Resource Cost	1,948	576	1,372	3.38

PROGRAM: Commercial/Industrial New Construction

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	20	9	0	29	73	0	73	-44
2001	38	7	0	45	63	0	63	-18
2002	57	8	0	65	65	0	65	0
2003	78	8	0	86	67	0	67	19
2004	100	9	0	109	69	0	69	40
2005	123	9	0	132	71	0	71	61
2006	146	9	0	155	68	0	68	87
2007	169	9	0	178	69	0	69	109
2008	194	9	0	203	70	0	70	133
2009	221	9	0	230	72	0	72	158
2010	225	0	0	225	0	0	0	225
2011	228	0	0	228	0	0	0	228
2012	232	0	0	232	0	0	0	232
2013	235	0	0	235	0	0	0	235
2014	239	0	0	239	0	0	0	239
2015	243	0	0	243	0	0	0	243
2016	246	0	0	246	0	0	0	246
2017	250	0	0	250	0	0	0	250
2018	254	0	0	254	0	0	0	254
2019	258	0	0	258	0	0	0	258
2020	262	0	0	262	0	0	0	262
2021	266	0	0	266	0	0	0	266
2022	270	0	0	270	0	0	0	270
2023	274	0	0	274	0	0	0	274
2024	279	0	0	279	0	0	0	279
2025	283	0	0	283	0	0	0	283
2026	287	0	0	287	0	0	0	287
2027	292	0	0	292	0	0	0	292
2028	296	0	0	296	0	0	0	296
NOMINAL	6065	86	0	6151	687	0	687	5464
NPV	1672	55	0	1727	448	0	448	1279

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 3.86

PROGRAM: Commercial/Industrial New Construction

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	12	12	0	0	24	73	0	0	0	20	93	-69
2001	24	22	0	0	46	63	0	0	0	19	82	-36
2002	30	32	8	0	70	65	0	0	0	19	84	-14
2003	43	43	11	0	97	67	0	0	0	20	87	10
2004	57	54	7	0	118	69	0	0	0	20	89	29
2005	191	66	18	0	275	71	0	0	0	20	91	184
2006	96	77	10	0	183	68	0	0	0	20	88	95
2007	93	88	15	0	196	69	0	0	0	20	89	107
2008	134	100	15	0	249	70	0	0	0	20	90	159
2009	121	111	19	0	251	72	0	0	0	20	92	159
2010	123	111	19	0	253	0	0	0	0	0	0	253
2011	123	111	20	0	254	0	0	0	0	0	0	254
2012	126	111	20	0	257	0	0	0	0	0	0	257
2013	126	111	21	0	258	0	0	0	0	0	0	258
2014	102	111	22	0	235	0	0	0	0	0	0	235
2015	129	111	23	0	263	0	0	0	0	0	0	263
2016	132	111	22	0	265	0	0	0	0	0	0	265
2017	132	111	24	0	267	0	0	0	0	0	0	267
2018	134	111	24	0	269	0	0	0	0	0	0	269
2019	134	111	25	0	270	0	0	0	0	0	0	270
2020	137	111	26	0	274	0	0	0	0	0	0	274
2021	137	111	27	0	275	0	0	0	0	0	0	275
2022	140	111	28	0	279	0	0	0	0	0	0	279
2023	141	111	29	0	281	0	0	0	0	0	0	281
2024	144	111	28	0	283	0	0	0	0	0	0	283
2025	144	111	31	0	286	0	0	0	0	0	0	286
2026	147	111	31	0	289	0	0	0	0	0	0	289
2027	148	111	33	0	292	0	0	0	0	0	0	292
2028	151	111	32	0	294	0	0	0	0	0	0	294
NOMINAL	3351	2714	588	0	6653	687	0	0	0	198	885	5768
NPV	991	801	156	0	1948	448	0	0	0	128	576	1372

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 3.38

PROGRAM: Commercial/Industrial New Construction

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	12	12	0	0	24	0	0	0	20	9	20	49	-25
2001	24	22	0	0	46	0	0	0	19	7	38	64	-18
2002	30	32	8	0	70	0	0	0	19	8	57	84	-14
2003	43	43	11	0	97	0	0	0	20	8	78	106	-9
2004	57	54	7	0	118	0	0	0	20	9	100	129	-11
2005	191	66	18	0	275	0	0	0	20	9	123	152	123
2006	96	77	10	0	183	0	0	0	20	9	146	175	8
2007	93	88	15	0	196	0	0	0	20	9	169	198	-2
2008	134	100	15	0	249	0	0	0	20	9	194	223	26
2009	121	111	19	0	251	0	0	0	20	9	221	250	1
2010	123	111	19	0	253	0	0	0	0	0	225	225	28
2011	123	111	20	0	254	0	0	0	0	0	228	228	26
2012	126	111	20	0	257	0	0	0	0	0	232	232	25
2013	126	111	21	0	258	0	0	0	0	0	235	235	23
2014	102	111	22	0	235	0	0	0	0	0	239	239	-4
2015	129	111	23	0	263	0	0	0	0	0	243	243	20
2016	132	111	22	0	265	0	0	0	0	0	246	246	19
2017	132	111	24	0	267	0	0	0	0	0	250	250	17
2018	134	111	24	0	269	0	0	0	0	0	254	254	15
2019	134	111	25	0	270	0	0	0	0	0	258	258	12
2020	137	111	26	0	274	0	0	0	0	0	262	262	12
2021	137	111	27	0	275	0	0	0	0	0	266	266	9
2022	140	111	28	0	279	0	0	0	0	0	270	270	9
2023	141	111	29	0	281	0	0	0	0	0	274	274	7
2024	144	111	28	0	283	0	0	0	0	0	279	279	4
2025	144	111	31	0	286	0	0	0	0	0	283	283	3
2026	147	111	31	0	289	0	0	0	0	0	287	287	2
2027	148	111	33	0	292	0	0	0	0	0	292	292	0
2028	151	111	32	0	294	0	0	0	0	0	296	296	-2
NOMINAL	3351	2714	588	0	6653	0	0	0	198	86	6065	6349	304
NPV	991	801	156	0	1948	0	0	0	128	55	1672	1855	93

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.05

D. INNOVATION INCENTIVE PROGRAM

Program Start Date: ▸ 1992
▸ Modified in 1995

Policies and Procedures

The Innovation Incentive program promotes a reduction in kW and kWh by subsidizing energy conservation projects for customers in the FPC service territory. The intent of the program is to encourage legitimate energy efficiency measures that reduce peak kW demand and/or kWh energy, but which are not addressed by other programs.

Energy efficiency opportunities are identified by FPC representatives during a Business Energy Check audit and are presented to the customer as part of the Business Energy Check report. Requirements for participation in this program are also explained to the customer at that time. If the customer chooses to implement modifications to effect energy efficiency improvements that are not addressed in other FPC energy efficiency programs, the modifications would be eligible for consideration under this program.

Representative examples of energy efficient technologies that would be considered under this program include, but are not limited to, refrigeration equipment replacements to improve efficiency, thermal energy storage systems, microwave drying systems, and inductive heating systems to replace resistance heating systems.

The program is available to all business customers in FPC's territory for projects that reduce peak demand by a minimum of 10 kW.

Program eligibility requirements to qualify for participation are as follows:

- Participant must be located in the FPC service territory and be a metered business customer.
- The customer is required to have an audit (any level) completed by FPC prior to participation in the program, except in the case of new construction projects.
- Projects must reduce or shift peak demand by a minimum of 10 kW.
- The participant must be willing to allow FPC to inspect the installations of all measures and equipment.

If the described project meets the program specifications, FPC will provide project approval and projected incentive payment amounts. Engineering designs, cost estimates, and energy savings projections must be submitted under a professional seal, when necessary. The customer may be required to monitor the project after completion to verify kW and kWh savings. Monitoring methods shall be approved by FPC. Costs for monitoring equipment should be included in the overall project cost estimate.

FPC will perform a customer-specific cost-effectiveness analysis for each project being considered under the Innovation Incentive program, using the Commission-approved cost-effectiveness tests described in Rule 25-17.008, Florida Administrative Code. To receive an incentive, each project must pass the Rate Impact Measure (RIM) and Participant tests of cost-effectiveness. The customer's incentive shall be based upon the RIM results, with the maximum allowable rebate being $150 per peak kW reduced or shifted to an off peak period.

After FPC has reviewed and approved the project, a contract will be executed between FPC and the customer, in which FPC agrees to subsidize the customer upon completion of the project.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Program Participants	Cumulative Penetration Level (%)
2000	163,576	3,333	1	0
2001	166,984	3,398	3	0
2002	170,356	3,463	4	0
2003	173,705	3,527	6	0
2004	177,016	3,590	7	0
2005	180,239	3,651	8	0
2006	183,373	3,710	9	0
2007	186,419	3,767	10	0
2008	189,416	3,823	11	0
2009	192,406	3,879	12	0

1. *Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.*
2. *Total Number of Eligible Customers is based on the total number of customers whose peak monthly demand exceeds 100 kW.*

Savings Estimates

The total program savings are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	120,047	70	70	120,047	70	70
2001	120,047	70	70	360,141	210	210
2002	120,047	70	70	480,188	280	280
2003	120,047	70	70	720,282	420	420
2004	120,047	70	70	840,329	490	490
2005	120,047	70	70	960,376	560	560
2006	120,047	70	70	1,080,423	630	630
2007	120,047	70	70	1,200,470	700	700
2008	120,047	70	70	1,320,517	770	770
2009	120,047	70	70	1,440,564	840	840

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	126,157	73	73	126,157	73	74
2001	126,157	73	73	378,472	220	222
2002	126,157	73	73	504,630	293	295
2003	126,157	73	73	456,944	439	443
2004	126,157	73	73	883,102	513	517
2005	126,157	73	73	1,009,259	586	591
2006	126,157	73	73	1,135,417	659	665
2007	126,157	73	73	1,261,574	732	739
2008	126,157	73	73	1,387,731	806	813
2009	126,157	73	73	1,513,889	879	886

Impact Evaluation Plan

To verify the estimated savings for each project, an engineering/billing analysis based on customer-specific site and usage data will be performed. Monitoring will continue until FPC has reasonable assurance that the project will remain in place and produce cost-effective energy savings for its estimated life. An incentive will not be issued to the customer until FPC is reasonably sure of the projected savings.

Cost Effectiveness

Each individual project will be analyzed for cost-effectiveness at the time of project submittal to FPC, using the Commission-approved tests of cost-effectiveness. Therefore, total program cost-effectiveness results are not shown. All projects must achieve a benefit-cost ratio of at least 1.0 on the RIM and Participant tests to receive an incentive under this program.

E. COMMERCIAL ENERGY MANAGEMENT PROGRAM

Program Start Date:
- 1983
- Modified in 1995
- Proposed modification for 2000

Policies and Procedures

The Commercial Energy Management program is a direct load control program that reduces FPC's demand during peak or emergency conditions. FPC will have direct control of the customer's selected participating equipment. The customer will receive a monthly credit on their bill depending on the interruption schedule and the devices which are participating in the program. *(Please refer to the GSLM-1 tariff for details.)*

The program is available to FPC customers eligible for service under the GS-1, GST-1, GSD-1, or GSDT-1 rate schedules, excluding those customers served under the General Service transition rates, and who elect service under the GSLM1 rate schedule and have electric space cooling equipment suitable for interruptible operation. The program is also applicable to customers who have any of the following electrical equipment installed on permanent residential structures and utilized for domestic (household) purposes: (1) water heater(s), (2) central electric heating system(s), (3) central electric cooling system(s), and/or (4) swimming pool pumps(s). Customers must be within the range of the Company's load management system in order to be eligible for the program.

Like the Residential Energy Management Program, FPC has determined that it is no longer cost-effective under the RIM test to continue adding new participants to the Commercial Energy Management program. (Pages IV-28 through IV-30 present the results of all three Commission-approved tests of cost-effectiveness.) As a result, the Company is proposing to close the program to new participants.

Domestic Commercial Energy Management

Currently, for domestically utilized equipment (i.e., the domestic (household) commercial portion of the Commercial Energy Management program), the GSLM-1 rate schedule simply references the Residential Energy Management's RSL-1 tariff in regard to control schedules and credit structure. FPC's proposed domestic commercial modifications will continue this direct link, as well as include a reference to the proposed new RSL-2 (Winter-Only) rate schedule, for all existing buildings that have an active Energy Management installation. The primary changes to the Domestic Commercial Energy Management portion of the program are as follows:

- The program will be closed to new participation, such that there will be no new domestic Commercial Energy Management installations.

- All existing domestic commercial Energy Management participants will be allowed to remain on the existing year-round program as long as they do not change their current control schedule.

- Prior to April 1, 2001, all new customer accounts associated with an active Energy Management-equipped building will be treated as an existing participant and allowed on the existing year-round program, if they maintain the same control schedules as the previous customer and do not require a service trip. If any changes in control schedule are made, then the customer will only be eligible for the proposed new Winter-Only RSL-2 rate schedule. (For details on this Winter-Only rate schedule, please see the Residential Energy Management Program, and the proposed RSL-2 rate schedule.)

- Beginning April 1, 2001, new customer accounts associated with an active Energy Management equipped building will no longer be eligible to continue the previous participant's service under the existing year-round Energy Management rate schedule. However, they will be eligible for the proposed new Winter-Only RSL-2 rate schedule.

Non-Domestic Commercial Energy Management

The non-domestic portion of the Commercial Energy Management Program is a summer-only component that offers an incentive for direct load control of electric cooling equipment. This is opposite of the direction FPC seeks to move the Residential Energy Management program, which would only allow new participants on a winter-only control schedule. FPC is, therefore, proposing that this non-domestic portion of the program be closed to new participation. All existing non-domestic commercial Energy Management participants will be allowed to remain on the existing program, as long as they do not change their current control schedule such that it requires a service trip. However, new customer accounts will not be eligible to continue a previous participant's service under this program.

Proposed changes to the GSLM-1 rate schedule (in legislative format) are presented in the Appendix to this document.

Program Participation

Given FPC's proposal to close the Commercial Energy Management Program to new participants, there are not projected to be any new participation during the 2000-2009 period.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level (%)
2000	163,576	145,483	0	0%
2001	166,984	148,335	0	0%
2002	170,356	151,155	0	0%
2003	173,705	153,952	0	0%
2004	177,016	156,710	0	0%
2005	180,239	159,380	0	0%
2006	183,373	161,963	0	0%
2007	186,419	164,456	0	0%
2008	189,416	166,901	0	0%
2009	192,406	169,338	0	0%

1. Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.

Savings Estimates

The total program savings for the Winter-Only Energy Management component of the program are shown in the following tables. Since there will be no new participants or savings from the Commercial Energy Management component, this program will not be used to meet FPC's Commission-approved conservation goals.

At the Meter						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	0	0	0	0	0
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0

At the Generator						
Year	Per Measure kWh Reduction	Per Measure Winter kW Reduction	Per Measure Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	0	0	0	0	0
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0

Impact Evaluation Plan

Since FPC is proposing to close this program to all new participation, and allow attrition to slowly end the existing program, FPC plans to maintain only a minimal evaluation effort that will use existing resources to address the domestic (household) portion of this program. As noted in the Residential Energy Management Program, FPC is in the process of conducting a residential end-use metering study that will be used to estimate the appliance level, and duty-cycle impacts of residential load control. This same data will be applied to the domestic portion of the Commercial Energy Management program to improve program impact estimates.

Cost Effectiveness

The following economic results are for the current Commercial Energy Management Program:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	144	187	-43	0.79
Participant	56	0	56	9999
Total Resource Cost	144	131	13	1.13

PROGRAM: Commercial Energy Management

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	0	1	0	1	0	0	0	1
2001	0	1	0	1	0	0	0	1
2002	0	2	0	2	0	0	0	2
2003	0	3	0	3	0	0	0	3
2004	0	3	0	3	0	0	0	3
2005	3	4	0	7	0	0	0	7
2006	0	5	0	5	0	0	0	5
2007	0	6	0	6	0	0	0	6
2008	0	6	0	6	0	0	0	6
2009	0	7	0	7	0	0	0	7
2010	1	7	0	8	0	0	0	8
2011	1	7	0	8	0	0	0	8
2012	1	7	0	8	0	0	0	8
2013	1	7	0	8	0	0	0	8
2014	1	7	0	8	0	0	0	8
2015	1	7	0	8	0	0	0	8
2016	1	7	0	8	0	0	0	8
2017	1	7	0	8	0	0	0	8
2018	1	7	0	8	0	0	0	8
2019	1	7	0	8	0	0	0	8
2020	1	7	0	8	0	0	0	8
2021	1	7	0	8	0	0	0	8
2022	1	7	0	8	0	0	0	8
2023	1	7	0	8	0	0	0	8
2024	1	7	0	8	0	0	0	8
2025	1	7	0	8	0	0	0	8
2026	1	7	0	8	0	0	0	8
2027	1	7	0	8	0	0	0	8
2028	1	7	0	8	0	0	0	8
NOMINAL	22	171	0	193	0	0	0	193
NPV	6	50	0	56	0	0	0	56

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Commercial Energy Management

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	11	11	-11
2001	0	0	0	0	0	0	0	0	0	11	11	-11
2002	0	0	1	0	1	0	1	0	0	11	12	-11
2003	0	0	1	0	1	0	1	0	0	11	12	-11
2004	0	0	2	0	2	0	1	0	0	11	12	-10
2005	0	0	194	0	194	0	20	0	0	11	31	163
2006	2	0	2	0	4	0	0	0	0	11	11	-7
2007	0	0	2	0	2	0	1	0	0	11	12	-10
2008	0	0	4	0	4	0	1	0	0	11	12	-8
2009	0	0	4	0	4	0	1	0	0	11	12	-8
2010	0	0	4	0	4	0	1	0	0	10	11	-7
2011	0	0	5	0	5	0	1	0	0	10	11	-6
2012	0	0	3	0	3	0	1	0	0	10	11	-8
2013	0	0	3	0	3	0	0	0	0	10	10	-7
2014	0	0	3	0	3	0	1	0	0	10	11	-8
2015	0	0	3	0	3	0	1	0	0	10	11	-8
2016	0	0	3	0	3	0	1	0	0	10	11	-8
2017	0	0	4	0	4	0	0	0	0	10	10	-6
2018	0	0	4	0	4	0	0	0	0	10	10	-6
2019	0	0	4	0	4	0	1	0	0	10	11	-7
2020	0	0	4	0	4	0	0	0	0	10	10	-6
2021	0	0	4	0	4	0	1	0	0	10	11	-7
2022	0	0	4	0	4	0	0	0	0	10	10	-6
2023	0	0	4	0	4	0	0	0	0	10	10	-6
2024	0	0	4	0	4	0	0	0	0	10	10	-6
2025	0	0	4	0	4	0	0	0	0	10	10	-6
2026	0	0	5	0	5	0	0	0	0	10	10	-5
2027	0	0	5	0	5	0	0	0	0	10	10	-5
2028	0	0	5	0	5	0	0	0	0	10	10	-5
NOMINAL	2	0	285	0	287	0	34	0	0	300	334	-47
NPV	1	0	143	0	144	0	18	0	0	113	131	13

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 1.13

PROGRAM: Commercial Energy Management

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	11	1	0	12	-12
2001	0	0	0	0	0	0	0	0	11	1	0	12	-12
2002	0	0	1	0	1	1	0	0	11	2	0	14	-13
2003	0	0	1	0	1	1	0	0	11	3	0	15	-14
2004	0	0	2	0	2	1	0	0	11	3	0	15	-13
2005	0	0	194	0	194	20	0	0	11	4	3	38	156
2006	2	0	2	0	4	0	0	0	11	5	0	16	-12
2007	0	0	2	0	2	1	0	0	11	6	0	18	-16
2008	0	0	4	0	4	1	0	0	11	6	0	18	-14
2009	0	0	4	0	4	1	0	0	11	7	0	19	-15
2010	0	0	4	0	4	1	0	0	10	7	1	19	-15
2011	0	0	5	0	5	1	0	0	10	7	1	19	-14
2012	0	0	3	0	3	1	0	0	10	7	1	19	-16
2013	0	0	3	0	3	0	0	0	10	7	1	18	-15
2014	0	0	3	0	3	1	0	0	10	7	1	19	-16
2015	0	0	3	0	3	1	0	0	10	7	1	19	-16
2016	0	0	3	0	3	1	0	0	10	7	1	19	-16
2017	0	0	4	0	4	0	0	0	10	7	1	18	-14
2018	0	0	4	0	4	0	0	0	10	7	1	18	-14
2019	0	0	4	0	4	1	0	0	10	7	1	19	-15
2020	0	0	4	0	4	0	0	0	10	7	1	18	-14
2021	0	0	4	0	4	1	0	0	10	7	1	19	-15
2022	0	0	4	0	4	0	0	0	10	7	1	18	-14
2023	0	0	4	0	4	0	0	0	10	7	1	18	-14
2024	0	0	4	0	4	0	0	0	10	7	1	18	-14
2025	0	0	4	0	4	0	0	0	10	7	1	18	-14
2026	0	0	5	0	5	0	0	0	10	7	1	18	-13
2027	0	0	5	0	5	0	0	0	10	7	1	18	-13
2028	0	0	5	0	5	0	0	0	10	7	1	18	-13
NOMINAL	2	0	285	0	287	34	0	0	300	171	22	527	-240
NPV	1	0	143	0	144	18	0	0	113	50	6	187	-43

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 0.79

F. STANDBY GENERATION PROGRAM

Program Start Date:
- 1993
- Modified in 1995

Policies and Procedures

The Standby Generation program is a demand control program that will reduce FPC's demand based upon the indirect control of customer equipment. The program is a voluntary program available to all commercial and industrial customers who have on-site generation capability and are willing to reduce their FPC demand when FPC deems it necessary. The program is offered through the General Service Load Management-2 (GSLM-2) rate schedule.

FPC will have no direct control of the customer's equipment, but will rely upon the customer to initiate the generation upon being notified by FPC and continue running it until FPC notifies the customer that the generation is no longer needed. FPC does not restrict other use of the equipment by the customer.

Standby Generation program participants will receive a monthly credit on their energy bill according to the demonstrated ability of the customer to reduce demand at FPC's request. The credit will be based upon the load served by the customer's generator, which would have been served by FPC if the Standby Generation program were not in operation. By compensating the customer for the use of their on-site generation, FPC can impact the commercial and industrial market while minimizing rate impacts.

The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the GS-1, GST-1, GSD-1 or GSDT-1 Rate Schedules.
- Customer must have standby generation that will allow facility demand reduction at the request of FPC.
- Customer's Standby Generation Capacity calculation must be at least 50 kW.
- Customer must be within the range of FPC's load management system.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers [2]	Annual Number of Program Participants	Cumulative Penetration Level (%)
2000	163,576	538	5	1%
2001	166,984	549	10	2%
2002	170,356	559	15	3%
2003	173,705	570	20	4%
2004	177,016	580	25	4%
2005	180,239	590	30	5%
2006	183,373	599	35	6%
2007	186,419	608	40	7%
2008	189,416	618	45	7%
2009	192,406	627	50	8%

1. *Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.*
2. *Total Number of Eligible Customers is based on the total number of customers having on-site generation.*

Savings Estimates

The kW and kWh savings estimates for this program were determined from historical data and are presented below.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	5,910	600	600	29,550	3,000	3,000
2001	5,910	600	600	59,100	6,000	6,000
2002	5,910	600	600	88,650	9,000	9,000
2003	5,910	600	600	118,200	12,000	12,000
2004	5,910	600	600	147,750	15,000	15,000
2005	5,910	600	600	177,300	18,000	18,000
2006	5,910	600	600	206,850	21,000	21,000
2007	5,910	600	600	236,400	24,000	24,000
2008	5,910	600	600	265,950	27,000	27,000
2009	5,910	600	600	295,500	30,000	30,000

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	6,211	628	633	31,054	3,139	3,166
2001	6,211	628	633	62,108	6,278	6,332
2002	6,211	628	633	93,162	9,418	9,498
2003	6,211	628	633	124,216	12,557	12,664
2004	6,211	628	633	155,270	15,696	15,830
2005	6,211	628	633	186,325	18,835	18,995
2006	6,211	628	633	217,379	21,974	22,161
2007	6,211	628	633	248,433	25,114	25,327
2008	6,211	628	633	279,487	28,253	28,493
2009	6,211	628	633	310,541	31,392	31,659

Impact Evaluation Plan

FPC uses on-site metering to measure the generation capability of each Standby Generation program participant to reduce load at the time they join the program. The customer and a FPC representative will observe the metering tests to determine the load that the standby generator carries. This system testing will also determine the initial readings that will be recorded in order to determine the incentive that the customer will receive on their bill each month. Engineering analysis is used to estimate on-going program savings for each participant based upon monitoring their generator usage.

Cost Effectiveness

The economic results of the program are as follows.

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	7,816	885	6,931	1.14
Participant	214	0	214	9999
Total Resource Cost	7,816	671	7,144	9.98

PROGRAM: Standby Generation

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	2	75	0	77	0	0	0	77
2000	5	149	0	154	0	0	0	154
2001	6	224	0	230	0	0	0	230
2002	5	298	0	303	0	0	0	303
2003	13	373	0	386	0	0	0	386
2004	12	447	0	459	0	0	0	459
2005	14	522	0	536	0	0	0	536
2006	18	596	0	614	0	0	0	614
2007	15	671	0	686	0	0	0	686
2008	30	745	0	775	0	0	0	775
2009	37	745	0	782	0	0	0	782
2010	29	745	0	774	0	0	0	774
2011	37	745	0	782	0	0	0	782
2012	30	745	0	775	0	0	0	775
2013	36	745	0	781	0	0	0	781
2014	28	745	0	773	0	0	0	773
2015	32	745	0	777	0	0	0	777
2016	27	745	0	772	0	0	0	772
2017	35	745	0	780	0	0	0	780
2018	28	745	0	773	0	0	0	773
2019	31	745	0	776	0	0	0	776
2020	29	745	0	774	0	0	0	774
2021	32	745	0	777	0	0	0	777
2022	30	745	0	775	0	0	0	775
2023	33	745	0	778	0	0	0	778
2024	30	745	0	775	0	0	0	775
2025	34	745	0	779	0	0	0	779
2026	31	745	0	776	0	0	0	776
2027	35	745	0	780	0	0	0	780
2028	0	0	0	0	0	0	0	0
NOMINAL	724	18255	0	18979	0	0	0	18979
NPV	214	0	0	214	0	0	0	214

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Standby Generation

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	2	25	0	0	27	0	0	0	0	10	10	17
2000	6	50	0	0	56	0	0	0	0	10	10	46
2001	0	75	142	0	217	0	116	0	0	10	126	91
2002	0	100	149	0	249	0	136	0	0	10	146	103
2003	0	125	273	0	398	0	158	0	0	10	168	230
2004	650	150	446	0	1246	0	0	0	0	10	10	1236
2005	261	175	322	0	758	0	0	0	0	10	10	748
2006	0	200	293	0	493	0	51	0	0	10	61	432
2007	0	225	553	0	778	0	95	0	0	10	105	673
2008	0	250	635	0	885	0	81	0	0	10	91	794
2009	0	250	653	0	903	0	80	0	0	10	90	813
2010	0	250	675	0	925	0	77	0	0	10	87	838
2011	0	250	695	0	945	0	70	0	0	10	80	865
2012	0	250	718	0	968	0	69	0	0	10	79	889
2013	0	250	739	0	989	0	65	0	0	10	75	914
2014	0	250	764	0	1014	0	64	0	0	10	74	940
2015	0	250	785	0	1035	0	59	0	0	10	69	966
2016	0	250	812	0	1062	0	57	0	0	10	67	995
2017	0	250	835	0	1085	0	46	0	0	10	56	1029
2018	0	250	863	0	1113	0	45	0	0	10	55	1058
2019	0	250	887	0	1137	0	39	0	0	10	49	1088
2020	0	250	917	0	1167	0	35	0	0	10	45	1122
2021	0	250	943	0	1193	0	33	0	0	10	43	1150
2022	0	250	975	0	1225	0	25	0	0	10	35	1190
2023	0	250	1002	0	1252	0	19	0	0	10	29	1223
2024	0	250	1036	0	1286	0	15	0	0	10	25	1261
2025	0	250	1066	0	1316	0	12	0	0	10	22	1294
2026	0	250	1102	0	1352	0	4	0	0	10	14	1338
2027	4	250	1132	0	1386	0	0	0	0	10	10	1376
2028	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	923	6125	19412	0	26460	0	1451	0	0	290	1741	24719
NPV	597	1941	5278	0	7816	0	671	0	0	0	671	7144

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 9.98

PROGRAM: Standby Generation

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	2	25	0	0	27	0	0	0	10	75	2	87	-60
2000	6	50	0	0	56	0	0	0	10	149	5	164	-108
2001	0	75	142	0	217	116	0	0	10	224	6	356	-139
2002	0	100	149	0	249	136	0	0	10	298	5	449	-200
2003	0	125	273	0	398	158	0	0	10	373	13	554	-156
2004	650	150	446	0	1246	0	0	0	10	447	12	469	777
2005	261	175	322	0	758	0	0	0	10	522	14	546	212
2006	0	200	293	0	493	51	0	0	10	596	18	675	-182
2007	0	225	553	0	778	95	0	0	10	671	15	791	-13
2008	0	250	635	0	885	81	0	0	10	745	30	866	19
2009	0	250	653	0	903	80	0	0	10	745	37	872	31
2010	0	250	675	0	925	77	0	0	10	745	29	861	64
2011	0	250	695	0	945	70	0	0	10	745	37	862	83
2012	0	250	718	0	968	69	0	0	10	745	30	854	114
2013	0	250	739	0	989	65	0	0	10	745	36	856	133
2014	0	250	764	0	1014	64	0	0	10	745	28	847	167
2015	0	250	785	0	1035	59	0	0	10	745	32	846	189
2016	0	250	812	0	1062	57	0	0	10	745	27	839	223
2017	0	250	835	0	1085	46	0	0	10	745	35	836	249
2018	0	250	863	0	1113	45	0	0	10	745	28	828	285
2019	0	250	887	0	1137	39	0	0	10	745	31	825	312
2020	0	250	917	0	1167	35	0	0	10	745	29	819	348
2021	0	250	943	0	1193	33	0	0	10	745	32	820	373
2022	0	250	975	0	1225	25	0	0	10	745	30	810	415
2023	0	250	1002	0	1252	19	0	0	10	745	33	807	445
2024	0	250	1036	0	1286	15	0	0	10	745	30	800	486
2025	0	250	1066	0	1316	12	0	0	10	745	34	801	515
2026	0	250	1102	0	1352	4	0	0	10	745	31	790	562
2027	4	250	1132	0	1386	0	0	0	10	745	35	790	596
2028	0	0	0	0	0	0	0	0	0	0	0	0	0
NOMINAL	923	6125	19412	0	26460	1451	0	0	290	18255	724	20720	5740
NPV	597	1941	5278	0	7816	671	0	0	0	0	214	885	6931

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.14

G. INTERRUPTIBLE SERVICE PROGRAM

Program Start Date: ▸ 1996 for the IS-2 and IST-2 rate schedules.

Policies and Procedures

The Interruptible Service (IS) program is a direct load control program that reduces FPC's demand at times of capacity shortage during peak or emergency conditions. The program is available throughout the entire territory served by FPC to any non-residential customer who is willing to have their power interrupted. The program is currently offered through the Interruptible General Service (IS-2) and Interruptible General Service Time of Use (IST-2) rate schedules. The IS-1 and IST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grandfathered onto the rate.

FPC will have remote control of the circuit breaker or disconnect switch supplying the customer's equipment. If purchased power is available at the time of potential interruption, customers who choose not to have their load interrupted will be assessed at the price of that purchased power supplied. Customers participating in the Interruptible Service program will receive a monthly interruptible demand credit based on their billing demand and billing load factor. The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the IS-1 or IST-1 Rate Schedules.
- Average billing demand must be 500 kW or more.
- Available at primary, transmission, and secondary service voltages.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level (%)
2000	163,576	869	0	0
2001	166,984	891	0	0
2002	170,356	913	1	0
2003	173,705	936	1	0
2004	177,016	959	1	0
2005	180,239	983	1	0
2006	183,373	1,008	2	0
2007	186,419	1,033	2	0
2008	189,416	1,059	2	0
2009	192,406	1,086	2	0

1. *Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.*

Savings Estimates

Savings estimate for the Interruptible Service program are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	4,250	500	440	0	0	0
2001	4,250	500	440	0	0	0
2002	4,250	500	440	4,250	500	440
2003	4,250	500	440	4,250	500	440
2004	4,250	500	440	4,250	500	440
2005	4,250	500	440	4,250	500	440
2006	4,250	500	440	8,500	1000	880
2007	4,250	500	440	8,500	1000	880
2008	4,250	500	440	8,500	1000	880
2009	4,250	500	440	8,500	1000	880

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	4,466	523	464	0	0	0
2001	4,466	523	464	0	0	0
2002	4,466	523	464	4,466	523	464
2003	4,466	523	464	4,466	523	464
2004	4,466	523	464	4,466	523	464
2005	4,466	523	464	4,466	523	464
2006	4,466	523	464	8,933	1,046	929
2007	4,466	523	464	8,933	1,046	929
2008	4,466	523	464	8,933	1,046	929
2009	4,466	523	464	8,933	1,046	929

Impact Evaluation Plan

Program impacts are evaluated through on-site interval metering data of all Interruptible Service customers.

Cost-Effectiveness

The cost-effectiveness results of the Interruptible Service program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	272	270	2	1.00
Participant	190	0	190	9999
Total Resource Cost	272	80	192	3.39

PROGRAM: Interruptible Service

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0
2002	0	10	0	10	0	0	0	10
2003	0	10	0	10	0	0	0	10
2004	0	10	0	10	0	0	0	10
2005	1	10	0	11	0	0	0	11
2006	4	21	0	25	0	0	0	25
2007	7	21	0	28	0	0	0	28
2008	5	21	0	26	0	0	0	26
2009	5	21	0	26	0	0	0	26
2010	6	21	0	27	0	0	0	27
2011	6	21	0	27	0	0	0	27
2012	6	21	0	27	0	0	0	27
2013	6	21	0	27	0	0	0	27
2014	6	21	0	27	0	0	0	27
2015	6	21	0	27	0	0	0	27
2016	6	21	0	27	0	0	0	27
2017	6	21	0	27	0	0	0	27
2018	6	21	0	27	0	0	0	27
2019	6	21	0	27	0	0	0	27
2020	6	21	0	27	0	0	0	27
2021	6	21	0	27	0	0	0	27
2022	7	21	0	28	0	0	0	28
2023	7	21	0	28	0	0	0	28
2024	7	21	0	28	0	0	0	28
2025	7	21	0	28	0	0	0	28
2026	7	21	0	28	0	0	0	28
2027	7	21	0	28	0	0	0	28
2028	7	21	0	28	0	0	0	28
NOMINAL	143	523	0	666	0	0	0	666
NPV	36	154	0	190	0	0	0	190

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Interruptible Service

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	5	5	-5
2001	0	0	0	0	0	0	0	0	0	5	5	-5
2002	0	4	8	0	12	0	6	0	0	6	12	0
2003	0	4	6	0	10	0	5	0	0	5	10	0
2004	0	4	8	0	12	0	8	0	0	5	13	-1
2005	56	4	35	0	95	0	0	0	0	5	5	90
2006	0	9	14	0	23	0	1	0	0	6	7	16
2007	0	9	11	0	20	0	1	0	0	5	6	14
2008	0	9	19	0	28	0	3	0	0	5	8	20
2009	0	9	20	0	29	0	3	0	0	5	8	21
2010	0	9	20	0	29	0	3	0	0	5	8	21
2011	0	9	21	0	30	0	3	0	0	5	8	22
2012	0	9	22	0	31	0	2	0	0	5	7	24
2013	0	9	22	0	31	0	2	0	0	5	7	24
2014	0	9	23	0	32	0	2	0	0	5	7	25
2015	0	9	24	0	33	0	2	0	0	5	7	26
2016	0	9	24	0	33	0	2	0	0	5	7	26
2017	0	9	25	0	34	0	2	0	0	5	7	27
2018	0	9	26	0	35	0	2	0	0	5	7	28
2019	0	9	27	0	36	0	2	0	0	5	7	29
2020	0	9	28	0	37	0	1	0	0	5	6	31
2021	0	9	29	0	38	0	1	0	0	5	6	32
2022	0	9	30	0	39	0	1	0	0	5	6	33
2023	0	9	30	0	39	0	1	0	0	5	6	33
2024	0	9	31	0	40	0	1	0	0	5	6	34
2025	0	9	32	0	41	0	0	0	0	5	5	36
2026	0	9	34	0	43	0	0	0	0	5	5	38
2027	0	9	34	0	43	0	0	0	0	5	5	38
2028	0	9	35	0	44	0	0	0	0	5	5	39
NOMINAL	56	223	638	0	917	0	54	0	0	147	201	716
NPV	34	66	172	0	272	0	25	0	0	55	80	192

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 3.39

PROGRAM: Interruptible Service

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	5	0	0	5	-5
2001	0	0	0	0	0	0	0	0	5	0	0	5	-5
2002	0	4	8	0	12	6	0	0	6	10	0	22	-10
2003	0	4	6	0	10	5	0	0	5	10	0	20	-10
2004	0	4	8	0	12	8	0	0	5	10	0	23	-11
2005	56	4	35	0	95	0	0	0	5	10	1	16	79
2006	0	9	14	0	23	1	0	0	6	21	4	32	-9
2007	0	9	11	0	20	1	0	0	5	21	7	34	-14
2008	0	9	19	0	28	3	0	0	5	21	5	34	-6
2009	0	9	20	0	29	3	0	0	5	21	5	34	-5
2010	0	9	20	0	29	3	0	0	5	21	6	35	-6
2011	0	9	21	0	30	3	0	0	5	21	6	35	-5
2012	0	9	22	0	31	2	0	0	5	21	6	34	-3
2013	0	9	22	0	31	2	0	0	5	21	6	34	-3
2014	0	9	23	0	32	2	0	0	5	21	6	34	-2
2015	0	9	24	0	33	2	0	0	5	21	6	34	-1
2016	0	9	24	0	33	2	0	0	5	21	6	34	-1
2017	0	9	25	0	34	2	0	0	5	21	6	34	0
2018	0	9	26	0	35	2	0	0	5	21	6	34	1
2019	0	9	27	0	36	2	0	0	5	21	6	34	2
2020	0	9	28	0	37	1	0	0	5	21	6	33	4
2021	0	9	29	0	38	1	0	0	5	21	6	33	5
2022	0	9	30	0	39	1	0	0	5	21	7	34	5
2023	0	9	30	0	39	1	0	0	5	21	7	34	5
2024	0	9	31	0	40	1	0	0	5	21	7	34	6
2025	0	9	32	0	41	0	0	0	5	21	7	33	8
2026	0	9	34	0	43	0	0	0	5	21	7	33	10
2027	0	9	34	0	43	0	0	0	5	21	7	33	10
2028	0	9	35	0	44	0	0	0	5	21	7	33	11
NOMINAL	56	223	638	0	917	54	0	0	147	523	143	867	50
NPV	34	66	172	0	272	25	0	0	55	154	36	270	2

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.00

H. CURTAILABLE SERVICE PROGRAM

Program Start Date: ▸ 1996 for the CS-2 and CST-2 rate schedules.

Policies and Procedures

The Curtailable Service (CS) program is a direct load control program that will reduce FPC's demand at times of capacity shortage during peak or emergency conditions. The program is available throughout the entire territory served by FPC to any non-residential customer who agrees to curtail 25% of their average monthly billing demand. The program is currently offered through the Curtailable General Service (CS-2) and Curtailable General Service Time of Use (CST-2) rate schedules. The CS-1 and CST-1 rate schedules were closed to new customers in 1996, but remain active for those customers that were grandfathered onto the rate.

FPC will have remote control of the circuit breaker or disconnect switch supplying the customer's equipment. If purchased power is available at the time of potential curtailment, customers who choose not to reduce their load will be assessed at the price of that purchased power. Customers participating in the Curtailable Service program receive a monthly curtailable demand credit based on their curtailable demand and billing load factor. The general program eligibility requirements to qualify for participation are as follows:

- Customer must be eligible for service under the CS-1 or CST-1 Rate Schedules.
- Average billing demand must be 500 kW or more.
- Available at primary, transmission, and secondary service voltages.

Program Participation

Cumulative participation estimates for the program are shown in the following table.

Year	Total Number of Customers [1]	Total Number of Eligible Customers	Annual Number of Program Participants	Cumulative Penetration Level (%)
2000	163,576	869	0	0
2001	166,984	891	0	0
2002	170,356	913	0	0
2003	173,705	936	0	0
2004	177,016	959	0	0
2005	180,239	983	0	0
2006	183,373	1,008	0	0
2007	186,419	1,033	0	0
2008	189,416	1,059	0	0
2009	192,406	1,086	0	0

1. *Total Number of Customers is the forecast of all commercial and industrial customers, from the June 1999 forecast.*

Savings Estimates

Savings estimate for the Curtailable Service program are shown in the following tables.

At the Meter						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	0	0	0	0	0
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0

At the Generator						
Year	Per Customer kWh Reduction	Per Customer Winter kW Reduction	Per Customer Summer kW Reduction	Total Annual kWh Reduction	Total Annual Winter kW Reduction	Total Annual Summer kW Reduction
2000	0	0	0	0	0	0
2001	0	0	0	0	0	0
2002	0	0	0	0	0	0
2003	0	0	0	0	0	0
2004	0	0	0	0	0	0
2005	0	0	0	0	0	0
2006	0	0	0	0	0	0
2007	0	0	0	0	0	0
2008	0	0	0	0	0	0
2009	0	0	0	0	0	0

Impact Evaluation Plan

Program impacts are evaluated through on-site interval metering data of all Curtailable Service customers.

Cost-Effectiveness

Even though FPC is projecting no new participants for the Curtailable Service Program, in order to evaluate the program for cost-effectiveness a minimal level of participation (one participant every other year) was assumed. The cost-effectiveness results of the Curtailable Service program are as follows:

Cost-Effectiveness Test	NPV Benefits (000$)	NPV Costs (000$)	NPV Net Benefits (000$)	B/C Ratio
Rate Impact Measure	634	479	154	1.32
Participant	251	0	251	9999
Total Resource Cost	634	228	405	2.77

PROGRAM: Curtailable Service

PARTICIPANT TEST

	BENEFITS				COSTS			
YEAR	(1) SAVINGS IN PARTICIPANT'S BILL $(000)	(2) INCENTIVE PAYMENTS $(000)	(3) OTHER PARTICIPANT BENEFITS $(000)	(4) TOTAL BENEFITS $(000)	(5) PARTICIPANT'S COSTS $(000)	(6) PARTICIPANT'S BILL INCREASE $(000)	(7) TOTAL COSTS $(000)	(8) NET BENEFITS TO PARTICIPANTS $(000)
1999	0	0	0	0	0	0	0	0
2000	0	4	0	4	0	0	0	4
2001	0	4	0	4	0	0	0	4
2002	0	9	0	9	0	0	0	9
2003	0	9	0	9	0	0	0	9
2004	1	13	0	14	0	0	0	14
2005	1	13	0	14	0	0	0	14
2006	7	17	0	24	0	0	0	24
2007	14	17	0	31	0	0	0	31
2008	23	22	0	45	0	0	0	45
2009	23	22	0	45	0	0	0	45
2010	24	22	0	46	0	0	0	46
2011	13	22	0	35	0	0	0	35
2012	13	22	0	35	0	0	0	35
2013	13	22	0	35	0	0	0	35
2014	14	22	0	36	0	0	0	36
2015	14	22	0	36	0	0	0	36
2016	14	22	0	36	0	0	0	36
2017	14	22	0	36	0	0	0	36
2018	15	22	0	37	0	0	0	37
2019	15	22	0	37	0	0	0	37
2020	7	22	0	29	0	0	0	29
2021	7	22	0	29	0	0	0	29
2022	7	22	0	29	0	0	0	29
2023	7	22	0	29	0	0	0	29
2024	8	22	0	30	0	0	0	30
2025	7	22	0	29	0	0	0	29
2026	8	22	0	30	0	0	0	30
2027	7	22	0	29	0	0	0	29
2028	8	22	0	30	0	0	0	30
NOMINAL	284	548	0	832	0	0	0	832
NPV	86	164	0	250	0	0	0	250

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 4/COL. 7): 9999.00

PROGRAM: Curtailable Service

TOTAL RESOURCE COST TEST

	BENEFITS					COSTS						
YEAR	(1) TOTAL FUEL & O&M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) OTHER PARTICIPANT BENEFITS $(000)	(5) TOTAL BENEFITS $(000)	(6) PARTICIPANT'S COSTS $(000)	(7) TOTAL FUEL & O&M INCREASE $(000)	(8) INCREASED T&D CAP. COSTS $(000)	(9) INCREASED GEN. CAP. COSTS $(000)	(10) UTILITY PROGRAM COSTS $(000)	(11) TOTAL COSTS $(000)	(12) NET BENEFITS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	4	0	0	4	0	0	0	0	15	15	-11
2001	0	4	0	0	4	0	0	0	0	15	15	-11
2002	0	8	18	0	26	0	15	0	0	15	30	-4
2003	0	8	14	0	22	0	13	0	0	15	28	-6
2004	0	12	32	0	44	0	21	0	0	15	36	8
2005	0	12	26	0	38	0	2	0	0	15	17	21
2006	29	16	35	0	80	0	0	0	0	15	15	65
2007	0	16	28	0	44	0	4	0	0	15	19	25
2008	0	19	60	0	79	0	11	0	0	15	26	53
2009	0	19	62	0	81	0	8	0	0	15	23	58
2010	0	19	64	0	83	0	9	0	0	15	24	59
2011	0	19	65	0	84	0	8	0	0	15	23	61
2012	0	19	67	0	86	0	7	0	0	15	22	64
2013	0	19	69	0	88	0	7	0	0	15	22	66
2014	0	19	71	0	90	0	7	0	0	15	22	68
2015	0	19	74	0	93	0	6	0	0	15	21	72
2016	0	19	76	0	95	0	6	0	0	15	21	74
2017	0	19	78	0	97	0	5	0	0	15	20	77
2018	0	19	81	0	100	0	5	0	0	15	20	80
2019	0	19	84	0	103	0	4	0	0	15	19	84
2020	0	19	84	0	103	0	4	0	0	15	19	84
2021	0	19	87	0	106	0	3	0	0	15	18	88
2022	0	19	90	0	109	0	4	0	0	15	19	90
2023	0	19	92	0	111	0	3	0	0	15	18	93
2024	0	19	95	0	114	0	2	0	0	15	17	97
2025	0	19	98	0	117	0	2	0	0	15	17	100
2026	0	19	101	0	120	0	1	0	0	15	16	104
2027	0	19	104	0	123	0	1	0	0	15	16	107
2028	0	19	108	0	127	0	0	0	0	15	15	112
NOMINAL	29	479	1863	0	2371	0	158	0	0	435	593	1778
NPV	16	147	470	0	633	0	70	0	0	160	230	403

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 11): 2.77

PROGRAM: Curtailable Service

RATE IMPACT MEASURE TEST

	BENEFITS					COSTS							
YEAR	(1) FUEL & O & M SAVINGS $(000)	(2) AVOIDED T&D CAP. COSTS $(000)	(3) AVOIDED GEN. CAP. COSTS $(000)	(4) REVENUE GAINS $(000)	(5) TOTAL BENEFITS $(000)	(6) FUEL & O & M INCREASE $(000)	(7) INCREASED T&D CAP. COSTS $(000)	(8) INCREASED GEN. CAP. COSTS $(000)	(9) UTILITY PROGRAM COSTS $(000)	(10) INCENTIVE PAYMENTS $(000)	(11) REVENUE LOSSES $(000)	(12) TOTAL COSTS $(000)	(13) NET BENEFITS TO ALL CUSTOMERS $(000)
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	4	0	0	4	0	0	0	15	4	0	19	-15
2001	0	4	0	0	4	0	0	0	15	4	0	19	-15
2002	0	8	18	0	26	15	0	0	15	9	0	39	-13
2003	0	8	14	0	22	13	0	0	15	9	0	37	-15
2004	0	12	32	0	44	21	0	0	15	13	1	50	-6
2005	0	12	26	0	38	2	0	0	15	13	1	31	7
2006	29	16	35	0	80	0	0	0	15	17	7	39	41
2007	0	16	28	0	44	4	0	0	15	17	14	50	-6
2008	0	19	60	0	79	11	0	0	15	22	23	71	8
2009	0	19	62	0	81	8	0	0	15	22	23	68	13
2010	0	19	64	0	83	9	0	0	15	22	24	70	13
2011	0	19	65	0	84	8	0	0	15	22	13	58	26
2012	0	19	67	0	86	7	0	0	15	22	13	57	29
2013	0	19	69	0	88	7	0	0	15	22	13	57	31
2014	0	19	71	0	90	7	0	0	15	22	14	58	32
2015	0	19	74	0	93	6	0	0	15	22	14	57	36
2016	0	19	76	0	95	6	0	0	15	22	14	57	38
2017	0	19	78	0	97	5	0	0	15	22	14	56	41
2018	0	19	81	0	100	5	0	0	15	22	15	57	43
2019	0	19	84	0	103	4	0	0	15	22	15	56	47
2020	0	19	84	0	103	4	0	0	15	22	7	48	55
2021	0	19	87	0	106	3	0	0	15	22	7	47	59
2022	0	19	90	0	109	4	0	0	15	22	7	48	61
2023	0	19	92	0	111	3	0	0	15	22	7	47	64
2024	0	19	95	0	114	2	0	0	15	22	8	47	67
2025	0	19	98	0	117	2	0	0	15	22	7	46	71
2026	0	19	101	0	120	1	0	0	15	22	8	46	74
2027	0	19	104	0	123	1	0	0	15	22	7	45	78
2028	0	19	108	0	127	0	0	0	15	22	8	45	82
NOMINAL	29	479	1863	0	2371	158	0	0	435	548	284	1425	946
NPV	16	147	470	0	633	70	0	0	160	164	86	480	153

UTILITY DISCOUNT RATE: 8.53%
BENEFIT/COST RATIO (COL. 5/COL. 12): 1.32

V. TECHNOLOGY DEVELOPMENT PROGRAM

V. TECHNOLOGY DEVELOPMENT PROGRAM

Program Start Date: ▸ 1995

Policies and Procedures

The purpose of this program is to establish a system for meeting the goals in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. Specifically, the following is stated in Rule 25-17.001, {5}(f): "Aggressively pursue research, development, and demonstration projects jointly with others as well as individual projects in individual service areas."

Florida Power Corporation will undertake certain development and demonstration projects which have promise to become cost-effective demand and energy efficiency programs. In general, each research and development project that is proposed and investigated will proceed as follows:

1. Project concept or idea development
2. Project research and design, including estimated costs and benefits
3. Conduct field test or pilot program
4. Evaluation of field test or pilot program, including cost-effectiveness
5. Acceptance or rejection of project for continuation as a program
6. If accepted in Item #5 above, application to the FPSC for approval to implement the program

Eligible customers will be determined during the project research and design phase, which will be dependent on the type of project being proposed and investigated. However, it is anticipated that only retail customers will be involved.

Each project that is proposed and investigated will have to meet one or more of the goals identified in Section 366.82(2), Florida Statutes, and Rule 25-17, Florida Administrative Code. If not, it will not proceed beyond the project concept or idea phase in Item #1 above.

Program Participation

In most cases, each demand reduction and energy efficiency project that is proposed and investigated under this program will require field testing with actual customers. These projects will offer services or products to eligible customers, after being defined in the project research and design phase, on a voluntary basis.

Examples of potential projects that may be funded under this program include demand reduction energy efficiency techniques, market transformation initiatives, indoor air quality measures, thermal energy storage technologies, and innovative metering approaches. All costs including incentives and rebates that are offered will be included as part of the pre-approved project expenditures under this program.

At the discretion of the Company, expenditures up to $800,000 annually may be made and recovered through the conservation cost recovery clause for all energy efficiency and conservation projects that are proposed and investigated. If any single project's expenditures exceed $100,000, a status report will be filed as a component of the Conservation Cost Recovery Projection and True-Up filings. The status report will identify each project under investigation with disbursements exceeding $100,000, the scope and purpose of the project, its development schedule identifying accomplishments and projections, and the project's actual and proposed expenditures for FPSC staff review. If any project (or combination of projects) expenditures are projected to exceed the $800,000 annual limit available under this program and are sufficiently worthy of special consideration, the Company will apply to the FPSC staff for approval to proceed.

Finally, the Company will account for and maintain records of all expenses for each project in accordance with Rule 25-17.015, Florida Administrative Code.

Savings Estimates

This program makes it possible to obtain and use actual data from field tests, instead of relying heavily on engineering assumptions, model results, estimates, and so forth. Benefit and cost figures derived from these projects will be more reliable and projectable, allowing better assessment of future demand reduction and energy efficiency programs submitted to the FPSC for approval.

A second benefit resulting from this development program is that the procedure uncovers benefits, costs, and disadvantages that may be overlooked by an engineering estimate or evaluation. During field tests, not only planned elements, but also unplanned elements are encountered. Actual experience on a small scale is obtained. This should facilitate the decision-making process and improve the success rate of approved programs.

Consequently, program savings were not estimated during the planning stage and are not included in the DSM Plan totals. Any impacts obtained by this program will be calculated for each individual project and will be reported to the FPSC to be counted toward achieving FPC's conservation goals.

Impact Evaluation Plan

The methodology for monitoring and evaluating a project that is submitted to the FPSC for approval as a program shall be determined during the project research and design phase and shall be refined during the field test or pilot program phase. Since projects will normally include a field test or pilot program, the data will be actual rather than estimated. In the event a project does not

involve a field test or pilot program, the estimated or modeled savings will be fully documented with the methodology used.

Cost-Effectiveness

The cost-effectiveness of each project submitted to the FPSC for approval to be implemented as a program shall be analyzed and reported using the Commission-approved cost-effectiveness tests.

Planned Projects

FPC agreed to pursue the following as part of the Commission approved stipulation between FPC and the Legal Environmental Assistance Foundation (LEAF):

1. **New Construction "Energy Star" Initiative -- HVAC Diagnostics**

   FPC proposed in the stipulation with LEAF to "Research and evaluate the energy impacts from required HVAC airflow and proper refrigerant charging through year-end 2000." This research will determine the feasibility of any future enhancement to the New Construction program involving these measures.

2. **Photovoltaic Initiative – R&D Project**

   This proposed R&D project under FPC's Technology Development Program is designed to standardize pre-packaged, roof-mounted photovoltaic (PV) systems for manufactured buildings. The PV systems will be connected to the utility grid. The primary objective is to reduce the labor costs associated with the installation of PV systems in the field. This would be accomplished by installing PV system hardware and a balance of system components in a factory environment where the processes can be streamlined. The project will install an estimated 8 kWp of PV arrays in total. The system will be between 1 and 2 kWp each and will be installed on six to eight buildings. The proposed project will be responsive to the Federal Government's Million Solar Roofs initiative and current goals of the Florida Energy Office and Sandia National Labs and will provide the following benefits:

   - The proposed PV project will provide education and develop efficiencies in the expanding manufactured building trade for the increased use of PV in the future.
   - The proposed project will allow FPC to add a component of "green" power to its generation mix.
   - With the assistance of the Florida Solar Energy Center, FPC will have the opportunity to monitor the proposed project and gain insight into the impact of distributed generation on FPC's grid.

APPENDIX -- PROPOSED TARIFF REVISIONS AND ADDITIONS

RATE SCHEDULE RSL-1
RESIDENTIAL LOAD MANAGEMENT
(Continued from Page No. 1)

(b) Advanced Load Management Program (per day interrupted credits)

Interruptible Equipment

Central Cooling System[4] = $4.50 x (% - 1)
50

Central Heating System[3] = $3.00 x (% - 1)
50

60 ≤ % ≤ 100

% = Customer selected maximum interruption %

Notes:
(1) Load management credits shall not exceed 40% of the Non-Fuel Charge associated with kWh consumption in excess of 600 kWh/month.
(2) For Central Heating and Cooling Systems, selection of Interruption Schedule A, Schedule B, Advanced Load Management is at the option of the Customer.
(3) For the billing months of November through March only.
(4) For the billing months of April through October only.

Interruption Schedules:

Schedule A Equipment interruptions will not exceed an accumulated total of 10 minutes during any 30-minute interval within the Company's designated Peak Periods.

Schedule B Equipment interruptions will not exceed an accumulated total of 16.5 minutes during any 30-minute interval within the Company's designated Peak Periods.

Schedule C Equipment may be interrupted continuously, not to exceed 300 minutes, and during the Company's designated Peak Periods. Where a thermal storage system has been installed hereunder, additional interruptions to the water heater will be made during periods of charging thermal storage system.

Schedule D The regular heating system may be interrupted continuously and alternative heating provided by means of a thermal storage system installed hereunder.

Advanced Under the Advanced Load Management Program, Customers may select from among company determined interruption schedules for the central heating systems and/or central cooling systems ranging from 18 minutes during any 30-minute interval to 30 minutes during any 30-minute interval.

Customers participating in the Advanced Load Management Program must also be interruption Schedule B participants. Under the Advanced Load Management Program, Customers will receive an Advanced Load Management credit for each day (midnight to midnight) in which this program is implemented. This credit will be in addition to the Customer's monthly load management credits.

Peak Periods:

The Peak Periods expressed in terms of prevailing clock time shall be, but are not limited to these as follows:

(1) For the calendar months of November through March - All Days: 6:00 a.m. to 11:00 a.m., and 6:00 p.m. to 10:00 p.m.

(2) For the calendar months of April through October - All Days: 1:00 p.m. to 10:00 p.m.

Terms and Conditions:

All terms and conditions of Rate Schedule RS-1, Residential Service, (i.e., Fuel Charges and other Billing Adjustments, Minimum Monthly Bill, Terms of Payment, Term of Service, and Average Billing Plan), shall apply to service under this rate schedule.

RATE SCHEDULE RSL-1
RESIDENTIAL LOAD MANAGEMENT
(Continued from Page No. 2)

Special Provisions:

1. The Company shall be allowed reasonable access to the Customer's premises to install, maintain, inspect, test and remove load management devices on the electrical equipment specified above.

2. Prior to the installation of load management devices, the Company may inspect the Customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment.

3. The Company shall not be required to install load management devices on electrical equipment which would not be economically justified for reasons, such as, excessive installation costs, insufficient load, oversized heating or cooling equipment, or abnormal utilization of equipment, including but not limited to, vacation or other limited occupancy residences or qualifying common use facilities.

4. Multiple units of any electrical equipment specified above must all be installed with load management devices to qualify for the credit attributable to that equipment type at that premise.

5. The limitation on Interruptible Schedules shall not apply during critical capacity conditions on the Company's system; nor shall limitations apply at times the Company requires additional generating resources to maintain firm power sales commitments or supply emergency interchange service to another utility for its firm load obligations only. The Company may also exercise equipment interruptions at any time for purposes of testing and performance evaluation of its load management system.

6. If the Company determines that the load management devices have been tampered with, the Company may discontinue service under this rate schedule and bill for all prior load management credits received by the Customer, unless an earlier tampering date can be established, plus applicable investigative charges.

7. An alternative thermal storage heating system is available to Customers who (a) have resistance strip heating solely as their central electric heating system, (b) have adequate space and provide access for installation and maintenance of a thermal storage system, (c) have an electric water heater circuit which can be utilized for charging a thermal storage system, and (d) have normal residential water heating and central heating requirements. The Company shall not be required to provide a thermal storage system where the Company deems the installation to be economically unjustified.

   For qualifying Customers, the Company will install, maintain, and operate a thermal storage system consisting of a thermal storage (water) tank, a pump, and a heat exchanging coil. The storage tank will be charged at the option and under the control of the Company. When this option is exercised, heating from this system will be available in place of the Customer's regular heating system. During periods that the storage tank is being charged, electric service to the Customer's regular water heater will be interrupted. An initial incentive payment of $50.00 shall be made to a participating Customer.

8. Billing under this Rate Schedule will commence with the first complete billing period following installation of the load management devices. A Customer may not change interruption schedules or the selection of electrical equipment installed with load management devices~~,~~ ~~or~~ The customer may transfer to another rate schedule by notifying the Company forty-five (45) days in advance. ~~However, in the event of any revision to the interruption schedules that may affect Customer, the Customer shall be allowed ninety (90) days from the effective date of the revision to transfer to another rate schedule.~~

8. If the Company determines that the effect of equipment interruptions has been offset by the Customer's use of supplementary or alternative electrical equipment, or if access cannot be obtained by the Company to inspect, maintain, or remove load management devices, service under this rate schedule may be discontinued and the Customer billed for all prior load management credits received over a period not in excess of six (6) months.

RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT – WINTER ONLY

Availability:
Available only within the range of the Company's load management system.

Applicable:
To Customers eligible for residential service under Rate Schedule RS-1 or RSS-1 having a minimum average monthly usage of 600 kWh for the months of November through March (based on the most recent billings, where not available, a projection for those months), and utilize both electric water heater and central electric heating systems:

Character of Service:
Continuous service, alternating current, 60 cycle, single-phase, at the Company's standard distribution secondary voltage available. Three-phase service, if available, will be supplied only under the conditions set forth in the Company's booklet "Requirements for Electric Service and Meter Installations.

Limitation of Service:
Service to the electrical equipment specified above may be interrupted at the option of the Company by means of load management devices installed on the Customer's premises.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

Rate Per Month:

Customer Charge:	$8.85
Energy and Demand Charges:	
Non-Fuel Energy Charge:	4.020¢ per kWh
plus Energy Conservation Cost Recovery Factor:	See Sheet No. 6.105
plus Capacity Cost Recovery Factor:	See Sheet No. 6.106

Additional Charges:

Fuel Cost Recovery Factor:	See Sheet No. 6.105
Gross Receipts Tax Factor:	See Sheet No. 6.106
Right-of-Way Utilization Fee:	See Sheet No. 6.106
Municipal Tax:	See Sheet No. 6.106
Sales Tax:	See Sheet No. 6.106

Load Management Credit Amount:[1]

Interruptible Equipment	Monthly Credit[2]
Water Heater and Central Heating System	$11.50

Notes: (1) Load management credits shall not exceed 40% of the Non-Fuel Charge associated with kWh consumption in excess of 600 kWh/month.
(2) For billing months of November through March only.

Appliance Interruption Schedule:

Heating	Equipment interruptions will not exceed an accumulated total of 16.5 minutes during any 30 minute interval within the Company's designated Peak Periods.
Water Heater	Equipment may be interrupted continuously, not to exceed 300 minutes, and during the Company's designated Peak Periods.

(Continued on Page No. 2)

RATE SCHEDULE RSL-2
RESIDENTIAL LOAD MANAGEMENT
(Continued from Page No. 1)

Peak Periods:

The Peak Periods expressed in terms of prevailing clock time shall be, but are not limited to these as follows:

(1) For the calendar months of November through March - All Days: 6:00 a.m. to 11:00 a.m., and
6:00 p.m. to 10:00 p.m.

Terms and Conditions:

All terms and conditions of Rate Schedule RS-1, Residential Service, i.e., Fuel Charges and other Billing Adjustments, Minimum Monthly Bill, Terms of Payment, Term of Service, and Average Billing Plan, shall apply to service under this rate schedule.

Special Provisions:

1. The Company shall be allowed reasonable access to the Customer's premises to install, maintain, inspect, test and remove load management devices on the electrical equipment specified above.
2. Prior to the installation of load management devices, the Company may inspect the Customer's electrical equipment to ensure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment.
3. The Company shall not be required to install load management devices on electrical equipment which would not be economically justified for reasons, such as, excessive installation costs, insufficient load, oversized heating or cooling equipment, or abnormal utilization of equipment, including but not limited to, vacation or other limited occupancy residences or qualifying common use facilities.
4. Multiple units of any electrical equipment specified above must all be installed with load management devices to qualify for the credit attributable to that equipment type at that premise.
5. The limitation on Interruptible Schedules shall not apply during critical capacity conditions on the Company's system; nor shall limitations apply at times the Company requires additional generating resources to maintain firm power sales commitments or supply emergency interchange service to another utility for its firm load obligations only. The Company may also exercise equipment interruptions at any time for purposes of testing and performance evaluation of its load management system.
6. If the Company determines that the load management devices have been tampered with, the Company may discontinue service under this rate schedule and bill for all prior load management credits received by the Customer, unless an earlier tampering date can be established, plus applicable investigative charges.
7. Billing under this Rate Schedule will commence with the first complete billing period following installation of the load management devices. A Customer may transfer to another rate schedule by notifying the Company forty-five (45) days in advance. However, in the event of any revision to the interruption schedules which may affect Customer, the Customer shall be allowed ninety (90) days from the effective date of the revision to change schedules, or equipment, or transfer to another rate schedule. If a customer transfers to another rate schedule they are not eligible to request service under this rate schedule for 12 month from the date of the transfer.
8. If the Company determines that the effect of equipment interruptions has been offset by the Customer's use of supplementary or alternative electrical equipment, or if access cannot be obtained by the Company to inspect, maintain, or remove load management devices, service under this rate schedule may be discontinued and the Customer billed for all prior load management credits received over a period not in excess of six (6) months.

RATE SCHEDULE GSLM-1
GENERAL SERVICE - LOAD MANAGEMENT

Availability:

Available only within the range of the Company's load management system.

Applicable:

To customers who are eligible for service under Rate Schedules GS-1, GST-1, GSD-1, or GSDT-1, excluding those customers served under the General Service transition rates, and who elect service under this rate schedule and have electric space cooling equipment suitable for interruptible operation. Also applicable to those customers who have any of the following electrical equipment installed on permanent residential structures and utilized for domestic (household) purposes: (1) water heater(s), (2) central electric heating system(s), (3) central electric cooling system(s), and/or (4) swimming pool pump(s).

Rate Codes:

~~The assigned Rate Codes for service hereunder as related to its otherwise applicable Rate Schedule are as follows: GS-1 – 61(Secondary), 63(Primary),___(Transmission); GST-1 – (Unassigned); GSD-1 – 71(Secondary), 73(Primary),___(Transmission); GSDT-1 – 69(Secondary), 45(Primary),___(Transmission).~~

Limitation of Service:

Service to specified electrical equipment may be interrupted at the option of the Company by means of load management devices installed on the Customer's premises.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

Rate per Month:

The rates and all other terms and conditions of Company Rate Schedules GS-1, GST-1, GSD-1, or GSDT-1 (whichever shall otherwise be applicable) shall be applicable to service under this rate schedule, subject to the following:

LOAD MANAGEMENT MONTHLY CREDIT AMOUNT

Interruptible Equipment	Interruption Schedule	Credit Based on Installed Capacity[1]	Applicable Billing Months
Electric Space Cooling[3]	A	$ 0.26 Per kW	April thru October
Electric Space Cooling[3]	B	$ 0.56 Per kW	April thru October
Domestically Utilized Equipment[2]	[Availability, Schedules and Credits of the otherwise applicable Rate Schedule RSL-1 or RSL-2 shall apply]		

Notes:
(1) Credit shall not exceed 50% of the Non-Fuel Energy and Demand Charges; nor, for otherwise applicable Rate Schedule GSDT-1, shall the credit exceed the On-Peak and Base demand charges.
(2) Equipment includes water heaters, central heating systems, central cooling systems, and swimming pool pumps when such equipment is installed on permanent residential structures and utilized for domestic purposes.
(3) Restricted to existing customer as of _____.

Interruption Schedules:

Schedule A Interruptions will not exceed an accumulated total of 10 minutes during any 30-minute interval within the designated Peak Periods.

Schedule B Interruptions will not exceed an accumulated total of 16.5 minutes during any 30-minute interval within the designated Peak Periods.

(Continued on Page No. 2)

RATE SCHEDULE GSLM-1
GENERAL SERVICE - LOAD MANAGEMENT
(Continued from Page No. 1)

Peak Periods:

The designated Peak Periods expressed in terms of prevailing clock time shall be as follows:

(1) For the calendar months of November through March,
All Days: 6:00 a.m. to 11:00 a.m., and
6:00 p.m. to 10:00 p.m.

(2) For the calendar months of April through October,
All Days: 1:00 p.m. to 10:00 p.m.

Special Provisions:

1. The Company shall be allowed reasonable access to the Customer's premises to install, maintain, inspect, test, and remove load management devices on the electrical equipment specified above.

2. Prior to the installation of load management devices, the Company may inspect the Customer's electrical equipment to insure good repair and working condition, but the Company shall not be responsible for the repair or maintenance of the electrical equipment. The Company may, at its option, require a commercial energy audit as a prerequisite to receiving service under this rate. The audit may be used to establish or confirm equipment capacity, operating hours, or to determine the ability of the Company to control electric demand.

3. The Company shall not be required to install load management devices on electrical equipment, which would not be economically justified, for reasons such as excessive installation costs, oversized heating or cooling equipment, or abnormal utilization of equipment, including operating hours which are not considered within the designated Peak Periods.

4. If the Company determines that equipment operating schedules and/or business hours have reduced the ability of the Company to control electric demand during the above designated peak periods, then service under this rate will be discontinued.

5. Where multiple units (including standby or multi-stage) of space conditioning equipment are used to heat or cool a building, all of these units must be equipped with load management devices and normally must be controlled on the same interruption cycle.

6. Billing under this rate schedule will commence with the first complete billing period following installation of the load management devices. During the first year of service, a Customer may transfer to another rate schedule by notifying the Company forty-five days (45) in advance. After the first year of service, the Customer may transfer to another rate schedule by notifying the Company twelve (12) months in advance. However, in the event of any revision to the interruption schedules which may affect Customer, the Customer shall be allowed ninety (90) days from the effective date of the revision to change schedules or equipment or transfer to another rate schedule.

7. The limitations on Interruptible Schedules shall not apply during critical capacity conditions on the Company's system; nor shall limitations apply at times the Company requires additional generating resources to maintain firm power sales commitments or supply emergency interchange service to another utility for its firm load obligations only. The Company may also exercise equipment interruptions at any time for purposes of testing and performance evaluation of its load management system.

8. If the Company determines that the load management devices have been tampered with, or disconnected without notice, the Company may discontinue service under this rate schedule and bill for prior load management credits received by the Customer, plus applicable investigative charges.

9. If the Company determines that the effect of equipment interruptions have been offset by the Customer's use of supplementary or alternative electrical equipment, service under this rate schedule may be discontinued and the Customer billed for all prior load management credits received over a period not in excess of six (6) months.

10. For purposes of determining eligible credits related to domestically utilized equipment, the Customer shall provide the Company actual occupancy rates of permanent residential structures containing each type equipment for the previous winter (November through March) and summer (April through October) periods. Credits for the current billing period shall apply to the number of items of each installed type equipment multiplied by the corresponding previous seasonal period's occupancy rate.

RATE SCHEDULE RSL-1
RESIDENTIAL LOAD MANAGEMENT

Availability:

Available only within the range of the Company's load management system.

~~As of _____, available only to customers whose premises have active load management devices installed.~~

~~As of April 1, 2001, available only to customers taking service hereunder on this date.~~

Applicable:

To Customers eligible for residential service under Rate Schedule RS-1 or RSS-1 having a minimum average monthly usage of 600 kWh (based on the most recent 12 months or, where not available, a projection for 12 months), and utilizing any of the following electrical equipment:

1. Water Heater
2. Central Electric Heating System
3. Central Electric Cooling System
4. Swimming Pool Pump

Character of Service:

Continuous service, alternating current, 60 cycle, single-phase, at the Company's standard distribution secondary voltage available. Three-phase service, if available, will be supplied only under the conditions set forth in the Company's booklet "Requirements for Electric Service and Meter Installations."

Limitation of Service:

Service to the electrical equipment specified above may be interrupted at the option of the Company by means of load management devices installed on the Customer's premises.

For new service requests after ~~the effective date of this tariff~~ April 1, 1995, customers who select the swimming pool pump schedule must also select at least one other schedule.

An installation of an alternative thermal storage heating system under Special Provision No. 7 of this rate schedule is not available after ~~the effective date of this tariff.~~ April 1, 1995.

Standby or resale service not permitted hereunder. Service under this rate is subject to the Company's currently effective and filed "General Rules and Regulations for Electric Service."

Rate Per Month:

Customer Charge:	$8.85
Energy and Demand Charges:	
Non-Fuel Energy Charge:	4.020¢ per kWh
plus Energy Conservation Cost Recovery Factor:	See Sheet No. 6.105
plus Capacity Cost Recovery Factor:	See Sheet No. 6.106

Additional Charges:

Fuel Cost Recovery Factor:	See Sheet No. 6.105
Gross Receipts Tax Factor:	See Sheet No. 6.106
Right-of-Way Utilization Fee:	See Sheet No. 6.106
Municipal Tax:	See Sheet No. 6.106
Sales Tax:	See Sheet No. 6.106

Load Management Credit Amounts:[1,2]

(a) Load Management Program (monthly credits)

Interruptible Equipment	Interruption Schedule A	B	C	D
Water Heater	-	-	$3.50	-
Central Heating System[3]	$2.00	$8.00	-	-
Central Heating System w/Thermal Storage[3]	-	-	-	$8.00
Central Cooling System[4]	$1.00	$5.00	-	-
Swimming Pool Pump	-	-	$2.50	-

(Continued on Page No. 2)