JACKSONVILLE ELECTRIC AUTHORITY

Demand-side Management Plan

Docket No. 950443-EG
August 25, 1995

TABLE OF CONTENTS

INTRODUCTION

In accordance with Rules 25-17.001-.005, Florida Administrative Code, the Florida Public Service Commission (FPSC) established numeric conservation goals for the Jacksonville Electric Authority (JEA) as set forth in Order No. PSC-95-0461-FOF-EG. In response to this Order, the JEA is submitting this Demand Side Management (DSM) Plan to the FPSC for approval.

The JEA designed its DSM Plan to achieve the conservation goals set by the FPSC. This DSM Plan consists of three residential programs and one commercial program. The JEA anticipates that the proposed programs will achieve the JEA's approved goals.

This report contains five sections. The first section presents an overview of the JEA's proposed DSM Plan, summarizing the goals and cumulative impacts of the plan. Section II discusses the JEA's proposed residential programs. Section III discusses the JEA's proposed commercial program and Section IV discusses the JEA's existing programs. Section V is a summary. This report also includes Appendix A, which contains the cost effectiveness analyses for the individual programs.

1OVERVIEW

1JEA's Goals

The JEA's DSM Plan is designed to achieve the JEA's approved conservation goals. Table I below presents the approved goals:

TABLE I

3JEA's DSM Plan

The DSM Plan contains three residential programs: Contractor and Building Inspector Continuing Education classes, Appliance Efficiency Education, and Low Income Audits. The commercial/industrial program is a loan program for low harmonic, high efficiency lighting.

The savings listed in the JEA's Cost Effectiveness Goals Results Report filed in December, 1994 were entirely based on a water heater pipe wrap program. Pipe wrap was the only program analyzed that passed the Rate Impact Test (RIM). Although cost effective under the RIM test, without incentive the payback to the customer of the water heater pipe wrap was longer than the life of the measure. Because of this, the JEA's proposed DSM Plan does not include the water heater pipe wrap program . The JEA's DSM Plan concentrates on educating customers, local building contractors, and local building inspectors on conservation measures and improvements in home design. The JEA considers these DSM programs part of its customer satisfaction efforts. As with prior conservation plans, the JEA anticipates that the DSM Plan will likely change over time due to program experience, changes in the needs of the JEA and its customers, and DSM options which may become available. For the purpose of this filing the commercial/industrial proposed plan savings are zero, although both kW and kWh savings are expected from the lighting loan program. Table II presents the estimated savings of the JEA's DSM Plan. This proposed plan is expected to exceed the approved goals in every year.

TABLE II

5Cost 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. The cost effectiveness test used was derived from the Florida Integrated Resource Evaluator (FIRE)

model developed by Florida Power Corporation. FIRE was reviewed to ensure that it evaluated cost effectiveness pursuant to Commission Rule 25-17.008, FAC. The JEA converted FIRE from DOS Lotus to Windows Lotus Format and changed the Investor Owned Utility (IOU) based financial calculations to those appropriate for a municipal utility. This updated FIRE model was renamed Commission Evaluation (CEVAL). All the measures in JEA's proposed DSM Plan were evaluated using CEVAL. These evaluations are presented in Appendix A.

KW and kWh savings for each program were obtained from Florida Power and Light (FPL) filings or JEA studies for similar measures. The number of participants was derived from Florida Power and Light (FPL) filings or from JEA estimates.

3RESIDENTIAL PROGRAMS

1Residential Program Overview

The JEA's DSM Plan offers three conservation programs. The three programs are: Contractor and Building Inspectors Continuing Education courses, Appliance Efficiency Education, Low Income Energy Audits. The JEA will continue all of its current conservation measures.

3Contractor and Building Inspector Continuing Education

1Program Description:

This program provides education and training to building contractors and building inspectors to encourage energy conservation and reduce duct leakage. The classes will be approved continuing education courses for building contractors licensed by the Florida Construction Industry Licensing Board (CILB). In addition to the classes, the JEA will develop a list of trained contractors willing to undertake duct repairs at a set price. These prices will be derived from the average price submitted by qualified contractors for different types of duct repair.

The classes are: Duct Leakage in Homes: Consequences, Control and Code Requirements; "Constructing an Energy Efficient House", "Load and Duct Sizing Calculations: Computer Solutions", and "Repairing Duct Leakage".

The "Duct Leakage in Homes: Consequences, Control and Code Requirements" class will address the impacts of duct leakage, repair and prevention methods and legal requirements for all new residential buildings in Florida. The class is planned to be offered four times per year at JEA facilities with class size of 25.

The "Constructing an Energy Efficient House" class will address all aspects of constructing an energy efficient home, including site selection, design, thermal and mechanical systems, construction details, energy code requirements, heating and air conditioning (HAC) equipment and duct sizing, and landscaping. Economic assessments are made of all energy features commonly offered by builders. This class is planned to be offered four times per year at JEA or other public facility with a class size of 25.

The "Load and Duct Sizing Calculations: Computer Solutions" class explains the new state requirements for HAC equipment and duct systems for residential and small commercial buildings. Instruction on computer software which allows the mandated load and duct calculations to be performed quickly and inexpensively is also included. This class is planned to be offered four times per year at JEA facilities with a class size of 15.

The "Repairing Duct Leakage" class will complement the “Duct Leakage in Homes: Consequences, Control and Code Requirements” class. It will provide actual hands-on experience in repairing the most common types of duct leakage such as air handler support platform leakage. It is planned to be offered once in a JEA facility in fiscal year 1996 and then evaluated so that improvements can be made. The first class will be limited to 10 participants.

2Program Participation Standards:

Any licensed contractor or building inspector will be eligible. The contractors and inspectors will be able to use these classes to help fulfill their continuing education requirements.

3Program Benefits and Costs:

Customer benefits and costs: JEA customers will benefit from the availability of more informed and educated building contractors and building inspectors. The education courses will encourage energy efficient building practices and the correct installation of duct systems, and increase the supply of informed contractors available to repair existing duct leaks. The Florida Solar Energy Center (FSEC) has identified residential duct leakage as a major source of energy waste in Florida. Although residential duct leakage occurs in the range of 11 to 17 percent of homes, the resulting energy losses are 20 to 40 percent. This is because duct leakage induces building leakage and degrades heating and air conditioning system performance. In addition, FSEC has shown duct leakage can cause pressure differences in a house that could lead to indoor air quality problems from a variety of sources internal and external to the house. Repair of severe duct leaks will lower energy bills, increase homeowner comfort, and possibly improve air quality. Energy savings will depend on the size of the heater or air conditioner, efficiency of the unit, and severity of the leaks repaired or prevented. Energy savings attributed to the JEA’s program will depend on the difference between the performance of trained

contractors and untrained contractors. Properly sized equipment saves energy over the life of the system. Ducts installed correctly will save energy and eliminate the need for costly repairs.

Utility benefits and costs: The electric consumption for the residential class will be reduced. By 2000, the estimated savings are approximately 446,586 kWh per year, 639 kW at the time of winter peak, and 365 kW at the time of the summer peak. The estimated annual administrative cost of this program for 1996 is approximately $40,000. The customers and contractors pay all installation costs. Contractors will pay a class registration fee.

FPL's estimates[1] of per customer savings were used for the duct repair classes. Customers who benefited from the duct classes were derived from FPL participation rates and reduced for JEA service size and the fact that the JEA will not offer a monetary incentive. The new home class savings were obtained from FPL's estimates for their North Bronze Buildsmart pilot program[2]. Participation rates are assumed to be 1.0 percent of the new homes being built in Duval County each year of the program.

The projected demand and energy savings per customer as well as the system impact for this program is shown on Table IV.

4Cost Effectiveness Analysis:

JEA has used the Commission approved cost-effectiveness methodologies required by Rule 25-17.008 to determine the cost-effectiveness of this program. The cost effectiveness analyses can be found in Appendix A.

5Program Monitoring and Evaluation:

The energy bills of new residential construction will be analyzed annually to track the change in use per customer as the program is implemented. Questions will be added to the JEA's Annual Residential Appliance Survey on duct repairs and contractors. The survey responses will be combined with billing history to determine savings. The contractors identified in the survey will be compared to the list of

---

[1] "Demand-Side Management Plan of Florida Power and Light, Plan Document" dated January 31, 1995 - pages 44-45, FPL

[2] "New Home Construction Research Project Findings, Results and Recommendations Final Report" dated June 1, 1995 page 11, FPL

contractors that have participated in JEA sponsored training to determine penetration into the new housing and duct repair markets. Engineering analysis and statistical billing analysis will be the methods used to identify the impacts of this program. On-site metering research will be considered in the future.

Program Name: CONTRACTOR AND BUILDING INSPECTOR CONTINUING EDUCATION COURSES

Year	(a) Total Number of Customers	(b) Total Number of Eligible Customers	(c) Annual Number of Program Participants	Cumulative Penetration Level %
1996	288,796	222,748	134	0.06%
1997	293,925	226,704	281	0.12%
1998	297,786	229,662	445	0.19%
1999	300,175	231,525	609	0.26%
2000	304,532	234,886	773	0.33%
2001	309,732	238,896	891	0.37%
2002	314,932	242,907	1,009	0.42%
2003	320,132	246,918	1,127	0.46%
2004	325,332	250,929	1,170	0.47%
2005	330,532	254,939	1,213	0.48%

Column a - The total number of customers in the residential rate class

Column b - The total number of eligible customers who can benefit from the program in the residential rate class

Column c - The annual number of customers benefiting from the program

0

TABLE III (Attachment A)

Program Name: CONTRACTOR AND BUILDING INSPECTOR CONTINUING EDUCATION COURSES

	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
1996	1,075	1.29	0.79	72,481	87	50
1997	1,075	1.29	0.79	152,073	182	105
1998	1,075	1.29	0.79	240,964	288	165
1999	1,075	1.29	0.79	329,855	394	226
2000	1,075	1.29	0.79	418,746	501	287
2001	1,075	1.29	0.79	482,475	576	331
2002	1,075	1.29	0.79	546,204	653	376
2003	1,075	1.29	0.79	609,933	729	421
2004	1,075	1.29	0.79	632,637	757	440
2005	1,075	1.29	0.79	655,341	784	460

	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
1996	1,144	1.65	1.01	77,128	111	64
1997	1,144	1.65	1.01	161,822	233	134
1998	1,144	1.65	1.01	256,410	368	211
1999	1,144	1.65	1.01	350,998	504	288
2000	1,144	1.65	1.01	445,586	639	365
2001	1,144	1.65	1.01	513,402	737	422
2002	1,144	1.65	1.01	581,218	835	479
2003	1,144	1.65	1.01	649,034	932	537
2004	1,144	1.65	1.01	673,200	967	561
2005	1,144	1.65	1.01	697,366	1,003	586

Note: Total Annual is cumulative

0

TABLE IV (Attachment B & C)

5

Appliance Efficiency Education

1Program Description:

For this program, the JEA will contract with vendors to promote high efficiency pool pumps. In exchange for the JEA's efforts to educate the public on the value of high efficiency pool pumps, the vendors will give JEA customers a $10.00 discount. This program will target customers who are replacing existing equipment and those making first time installations.

To reduce the number of non cost effective second refrigerators and second freezers, the JEA will also educate its customers on the cost of having a second freezer or refrigerator.

2Program Participation Standards:

All JEA residential customers, both existing and new construction, will be eligible for the vendor discount. Approximately 9.0 percent of JEA customers have pool pumps. Approximately 8.8 percent of JEA's customers have a second refrigerator or second freezer. Power for Pennies[3], audits, and public education programs will explain the expense of the second refrigerators and freezers and the savings of the high efficiency pool pumps. An estimated 10.0 percent of customers with an existing pool pump require replacement of their pool pump each year. Participants are assumed to be 1.0 percent of the eligible new and replacement market each year.

3Program Benefits and Costs:

After the JEA customer discount, the customer will pay approximately $50.00 more for the high efficiency pool pump than for a standard pool pump. This expense will pay back in less than 4 years. Removing a second refrigerator or second freezer will reduce energy costs with no initial expenses.

Utility Benefit: The efficiency of the appliance stock in the JEA service territory will be raised. By 2000, the electrical consumption for the residential class will be reduced at the generator by 3,180,412 kWh per year and 530 kW at the time of the winter and summer peak. The utility will increase customer satisfaction by educating the customer on cost effective purchases and energy usage.

---

[3] JEA's "Power for Pennies" is a weekly three minute television segment aired on TV Channel 12 which features energy saving techniques and technologies.

FPL's estimates[4] of per customer savings for high efficiency pool pumps, removing second refrigerators and second freezers is used for the cost effectiveness analysis. The projected demand and energy savings per customer as well as the system impact for these courses are shown on Table VI.

Utility Cost: The JEA's administrative cost will be low. The JEA currently has an education program in place. After the initial contract with the pool pump vendors for the JEA customer discount, administration of the plan will be minimal.

4Cost Effectiveness Analysis:

The JEA has used the Commission approved cost-effectiveness methodologies required by Rule 25-17.008 to determine the cost-effectiveness of this program. The cost effectiveness analyses can be found in Appendix A.

5Program Monitoring and Evaluation:

System Planning surveys the JEA's residential customers annually. The percentage of second refrigerators and second freezers will be tracked to determine the effect of the program. The number of pool pump discounts given by vendors to JEA customers will also be monitored.

[4] "Cost Effectiveness Goals Results Report Appendix K" of Florida Power and Light dated February 18, 1994 - Book 5 pages 193, 205, 217, FPL

Program Name: APPLIANCE EFFICIENCY EDUCATION

Year	(a) Total Number of Customers	(b) Total Number of Eligible Customers	(c) Annual Number of Program Participants	Cumulative Penetration Level %
1996	288,796	58,827	751	1.28%
1997	293,925	61,735	1,530	2.48%
1998	297,786	64,905	2,342	3.61%
1999	300,175	68,070	3,186	4.68%
2000	304,532	71,238	4,062	5.70%
2001	309,732	74,404	4,969	6.68%
2002	314,932	77,571	5,908	7.62%
2003	320,132	80,736	6,878	8.52%
2004	325,332	83,904	7,880	9.39%
2005	330,532	87,070	8,913	10.24%

Column a - The total number of customers in the residential rate class
Column b - The total number of eligible customers in the residential rate class
Column c - The annual number of customers benefiting from the program

0

TABLE V (Attachment A)

Program Name: APPLIANCE EFFICIENCY EDUCATION

Year	At the Meter					
	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
1996	3,448	0.46	0.46	548,238	77	77
1997	3,448	0.46	0.46	1,117,329	155	155
1998	3,448	0.46	0.46	1,715,506	239	239
1999	3,448	0.46	0.46	2,339,691	325	325
2000	3,448	0.46	0.46	2,991,406	415	415
2001	3,448	0.46	0.46	3,668,944	509	509
2002	3,448	0.46	0.46	4,374,012	606	606
2003	3,448	0.46	0.46	5,104,903	707	707
2004	3,448	0.46	0.46	5,863,324	811	811
2005	3,448	0.46	0.46	6,647,568	918	918

Year	At the Generator					
	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
1996	3,668	0.59	0.59	582,876	97	97
1997	3,668	0.59	0.59	1,187,920	199	199
1998	3,668	0.59	0.59	1,823,892	305	305
1999	3,668	0.59	0.59	2,487,516	415	415
2000	3,668	0.59	0.59	3,180,412	530	530
2001	3,668	0.59	0.59	3,900,764	649	649
2002	3,668	0.59	0.59	4,650,388	774	774
2003	3,668	0.59	0.59	5,427,468	902	902
2004	3,668	0.59	0.59	6,233,620	1,035	1,035
2005	3,668	0.59	0.59	7,067,628	1,172	1,172

Note: Total Annual is cumulative

0

TABLE VI (Attachment B & C)

7Energy Audits for Low Income Customers

1Program Description:

This program targets low income residential customers.

Every JEA customer is eligible for an energy audit. The audit recommendations usually require the customer to spend money replacing or adding energy conservation measures. Low income persons may not have the discretionary income to make these changes. In an effort to assist the JEA's low income customers, through this program, the JEA will work with a local weatherization agency to provide audits for low income customers. Northeast Florida Community Action Agency (NFCAA) is the local weatherization provider for Duval County. The JEA will pay the JEA’s cost for energy audits for any JEA customer through the state weatherization program. The approximate cost of a JEA energy audit is $50.

The purpose of the state weatherization program is to reduce the energy cost for low income households, particularly those households with elderly persons, disabled persons, and children, by improving the energy efficiency of their homes and ensuring a safe and healthy environment. The Department of Community Affairs (DCA) has administered the state weatherization program since 1978. The DCA contracts with local community based non-profit agencies experienced at working with the low income community and energy conservation programs. The local agencies identify citizens in the need of services, qualify them, evaluate the conservation needs of the household, and oversee and evaluate the work.

The weatherization provider assesses the overall energy conservation and housing repair needs of the client. This audit, which currently includes a blower door test, a carbon monoxide test, and an air pollution source survey, is more extensive than the current JEA energy audit. Typical weatherization measures include air-tightening, insulation, high efficiency shower heads, and water heater wraps. A small percentage of the money designated for each house may be used for health and safety repairs and other incidental repairs that are necessary before the weatherization measures may be installed. Department of Energy regulations allow the replacement of heating and cooling equipment if it can be shown to be cost effective.

2Program Participation Standards:

The participation standards mirror the state's weatherization program's standards. Eligibility of low income JEA residential customers is determined by the DCA's local designated weatherization provider. Both owner occupied and rental property are eligible. Approximately 400 low income audits are expected to be performed annually.

3Program Benefits and Costs:

Customer Benefits: Low income customers will benefit from the customized weatherization of their homes which will decrease their electric bills. These customers will be able to participate in conservation measures that they might not be able to otherwise afford.

Utility Benefits: After five years, the electrical consumption for the residential class is estimated to be reduced by 1,387,125 kWh per year and 466 kW in the winter and 547 kW in the summer. This program will also allow the JEA to reach a segment of its customers not traditionally reached through the current audit program. In addition, the JEA will be helping to lower the bills of low income customers who may have more difficulty paying their bills. Reducing the bill of the low income customer may improve the customer's ability to pay the bill, thereby decreasing costly service disconnections and the amount of revenue that the JEA is unable to collect. The JEA believes this program will help the JEA to achieve and maintain high ci=ustomer satisfactoion.

The projected demand and energy savings per customer as well as the system impact for a low income audit are shown on Table VIII. Per customers savings were obtained from the savings expected from the regular JEA energy audit, which was based on a billing study completed in July, 1994.

Utility Costs: In addition to contributing to the state weatherization program, the JEA will provide consumer education and referrals. The JEA already refers customers to other agencies, performs energy audits, and provides consumer education so there should be minimal additional administrative costs. This low income audit program will cost approximately $20,000 because it will generate about 400 additional audits at $50.00 per audit.

4Cost Effectiveness Analysis:

The JEA has used the Commission approved cost-effectiveness methodologies required by Rule 25-17.008 to determine the cost-effectiveness of this program. The cost effectiveness analyses can be found in Appendix A.

5Program Monitoring and Evaluation:

The DCA provides program oversight, development, program delivery, fiscal training, and monitoring for the weatherization providers. Each local agency is field monitored at least once a year. The local agencies must comply with federal and state program requirements. Each agency must provide the DCA with an agency audit once a year. The DCA receives monthly work reports from all weatherization providers, with detailed information about weatherization services

provided, cost, and an estimate of the pre-weatherization monthly energy expenditures. By 1995, the weatherization agencies will report documented pre- and post-weatherization energy expenditures that will be maintained in a computer database. The JEA will keep a record of the number of audits the weatherization provider performs under the JEA program.

Program Name: LOW INCOME AUDIT

Year	(a) Total Number of Customers	(b) Total Number of Eligible Customers	(c) Annual Number of Program Participants	Cumulative Penetration Level %
1996	288,796	28,880	405	1.40%
1997	293,925	29,393	810	2.76%
1998	297,786	29,779	1,215	4.08%
1999	300,175	30,018	1,620	5.40%
2000	304,532	30,453	2,025	6.65%
2001	309,732	30,973	2,430	7.85%
2002	314,932	31,493	2,835	9.00%
2003	320,132	32,013	3,240	10.12%
2004	325,332	32,533	3,645	11.20%
2005	330,532	33,053	4,050	12.25%

Column a - The total number of customers in the residential rate class
Column b - The total number of eligible customers in the residential rate class
Column c - The annual number of customers benefiting from the program

0TABLE VII

(Attachment A)

Program Name: LOW INCOME AUDIT

Year	At the Meter					
	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
1996	644	0.18	0.21	260,820	73	85
1997	644	0.18	0.21	521,640	146	170
1998	644	0.18	0.21	782,460	219	255
1999	644	0.18	0.21	1,043,280	292	340
2000	644	0.18	0.21	1,304,100	365	425
2001	644	0.18	0.21	1,564,920	437	510
2002	644	0.18	0.21	1,825,740	510	595
2003	644	0.18	0.21	2,086,560	583	680
2004	644	0.18	0.21	2,347,380	656	765
2005	644	0.18	0.21	2,608,200	729	851

Year	At the Generator					
	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
1996	685	0.23	0.27	277,425	93	109
1997	685	0.23	0.27	554,850	186	219
1998	685	0.23	0.27	832,275	279	328
1999	685	0.23	0.27	1,109,700	373	437
2000	685	0.23	0.27	1,387,125	466	547
2001	685	0.23	0.27	1,664,550	559	656
2002	685	0.23	0.27	1,941,975	652	765
2003	685	0.23	0.27	2,219,400	745	875
2004	685	0.23	0.27	2,496,825	838	984
2005	685	0.23	0.27	2,774,250	932	1,094

Note: Total Annual is cumulative

0

TABLE VIII (Attachment B & C)

5

COMMERCIAL PROGRAMS

1Commercial Lighting

1Program Description:

The program provides financial assistance for lighting measures that promote energy savings and power quality improvements. The JEA will loan $30.00 per fixture for a retrofit. This is 85 percent of the JEA's estimate of the cost of replacing a fixture. The loan will be recovered over 3 years at a 5.0 percent annual interest rate through a monthly charge on the customer's electric bill.

2Program Participation Standards:

All GS, GSD, and GSLD customers with ten or more fixtures per meter could qualify. Additional qualifications are as follows:

1The customer will replace 4 foot 34 or 40 watt lamps and current ballasts with T8 lamps and high efficiency low harmonic electronic ballasts.

OR

2The customer will replace 8 foot 60 or 75 Watt lamps and current ballasts with 8 foot T8 lamps and high efficiency low harmonic electronic ballasts.

3The customer will pass reasonable credit standards.

4Retrofits or new construction completed before the effective date of the program will not be eligible. An estimated 87,000 fixtures per year will be replaced in this program.

3Program Benefits and Costs:

Customer benefits and costs: Lighting contributes approximately one-third of the total electricity consumption for most commercial buildings. The estimated kWh savings for this program are approximately seven percent of the customer's electric bill. The program allows the customer to repay the loan through the bill savings.

Utility Benefit: This loan program for lighting will enable the JEA to assist its customers in implementing energy conservation measures. This program has low net costs to the JEA because the customer repays the loan with interest.

The low harmonic ballasts help the JEA maintain quality electric service to its customers. Some conservation measures for lighting, while decreasing the customer's energy usage, increase harmonics. Higher harmonics forces the utility to spend money to reduce these harmonics to maintain power quality. This program will also aid the JEA in

reinforcing recommendations from the JEA's existing commercial energy audit program.

Utility Cost: The major costs of a loan program are administrative costs and loan defaults.

4Cost Effectiveness Analysis:

Since the JEA does not project energy savings from the implementation of this program, a cost effectiveness analysis is not applicable.

5Program Monitoring and Evaluation:

The 24 month demand and energy history of each participating customer will be compared to the monthly demand and energy after program implementation. The participating customers will be surveyed to determine what additional renovations, if any, might affect demand and energy use. This information will be used to determine the savings due to the lighting change.

In addition to demand and energy concerns, default on the loans will be monitored.

Program Name:Commercial Lighting Loan Program

Year	(a) Total Number of Customers	(b) Total Number of Eligible Customers	(c) Annual Number of Program Participants	Cumulative Penetration Level %
1996	NA	NA	NA	NA
1997	NA	NA	NA	NA
1998	NA	NA	NA	NA
1999	NA	NA	NA	NA
2000	NA	NA	NA	NA
2001	NA	NA	NA	NA
2002	NA	NA	NA	NA
2003	NA	NA	NA	NA
2004	NA	NA	NA	NA
2005	NA	NA	NA	NA

0

TABLE IX (Attachment A)

Program Name:Commercial Lighting Loan Program

Year	At the Meter					
	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
1996	NA	NA	NA	NA	NA	NA
1997	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA

Year	At the Generator					
	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
1996	NA	NA	NA	NA	NA	NA
1997	NA	NA	NA	NA	NA	NA
1998	NA	NA	NA	NA	NA	NA
1999	NA	NA	NA	NA	NA	NA
2000	NA	NA	NA	NA	NA	NA
2001	NA	NA	NA	NA	NA	NA
2002	NA	NA	NA	NA	NA	NA
2003	NA	NA	NA	NA	NA	NA
2004	NA	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA	NA

0

TABLE X (Attachment B & C)

7

ADDITIONAL EXISTING CONSERVATION PROGRAMS

1Residential Programs

1Residential Energy Audits:

The JEA's objective for offering a Standard Energy Audit Program, a Landscape Audit Program, and a Water Audit Program is to lower kW and kWh usage in residential buildings by providing information and recommendations to home owners regarding increasing energy efficiency in a manner that is cost-effective for the home owner.

2Multi-Check:

In 1990, the JEA began offering a short version of the residential energy survey to each customer who requests a meter reread. The JEA looks for causes of high consumption and offers suggestions on how customers can better manage their energy resources. The JEA offers this program to both electric and water services.

3Commercial/ Industrial Programs

1Commercial Energy Audits:

Commercial Energy Audits are provided to all commercial customers upon customer request. Audits are performed by trained energy analysts who consider cost effective conservation measures relating to thermal insulation, heating and air conditioning, and lighting. The energy conservation measures are analyzed with the aid of a computer program which simulates the customer's facility. The customer receives a written report on the findings of the analysis, including a description of recommended measures, initial investment required, and potential energy savings.

2Industrial Energy Audits:

Industrial Energy Audits are performed by professional engineers and specifically address the industrial customer's unique energy conservation opportunities. Opportunies include: thermal improvements, space conditioning, lighting, cogeneration, process, and any new efficient electrotechnology. The customer receives a written recommendations describing each recommendation, the initial cost, and annual savings.

3Street Light Efficiency Conversion Program:

The JEA has converted nearly all of the approximately 60,000 mercury vapor luminaries, owned by the City of Jacksonville, to the more energy

efficient high pressure sodium luminaries which use less electricity.

5Education

1Public Information/ Energy Education:

This is a multi-faceted program aimed at promoting energy conservation awareness before the general public. This is accomplished through the following agenda.

1Speakers' Bureau: A program aimed at satisfying ongoing requests from the public and specialized groups in four main categories.

1 Speakers with energy conservation expertise (residential conservation, commercial/industrial energy management, energy-efficient construction, etc.), address business, professional, civic and church groups.

2Energy information specialists discuss energy conservation on radio and television talk shows and in media interviews.

3Professional engineers address management and personnel at large industrial sites.

4Energy educators or speakers coach teachers and address students at elementary, high school and college levels. The speakers have a broad knowledge of energy curriculum, energy education materials content and sources.

2Media Contact: Energy conservation events and developments are promoted through the print and electronic media. One such effort is the JEA's "Power for Pennies", a weekly three minute television segment aired on WTLV TV Channel 12 which features energy saving techniques and technologies.

3Special Promotions/Special Events: The JEA supports special energy awareness observances and special events. National Energy Awareness Month, Energy Week, Public Power Week and Electrical Safety Week are promoted through the media, businesses, schools and special events, including:

1Energy Week, held at Naval Bases and at Vistakon in October (National Energy Awareness Month).

2Home & Patio Spring and Fall Shows.

3Eartha M. White Nursing Home Health Fair.

4 JEA-Produced Bill Inserts/Brochures and Pamphlets: A series of printed Bill Inserts highlights seasonal energy conservation tips and the JEA energy conservation services.

5 JEA Tours/Special Booklets: Tours of the JEA's power plants and facilities are open to students grade six and up and to adults to provide a foundation for energy awareness.

6 Energy Product Reviews/Fact sheets: The Energy Conservation Division reviews products listings in appropriate magazines, such as ASHRAE Journal and Building Design and Construction, as well as new products appearing on the local market, to keep abreast of developments in energy technology.

7 Printed Materials-General: A selection of technically accurate, attractive booklets, brochures, posters and multi-part kits is made available for customers of all ages.

8 Audiovisuals-Library/Construction Video Series/Public Service Videos: These videos, slides, films and filmstrips seek to improve the effectiveness of energy conservation messages, with or without personal JEA representation.

9 Model Energy Curriculum: This model energy education curriculum was developed and used to coach teachers in knowledge of energy facts and teaching methods.

10 Tree Hill Outreach: This JEA outreach to educators, students, senior citizens and other adults is provided under contract by P.A.T.H., Inc., through its Tree Hill Nature Center. Energy education or information is provided to approximately 10,000 consumers annually in Tree Hill programs. The JEA maintains a working Photovoltaic demonstration at Tree Hill.

11 KEY ACCOUNTS: The JEA has a Key Accounts program to serve the needs of its largest customers. The JEA is systematically contacting all of its Key Account customers to identify their energy related needs and concerns and develop mechanisms to respond to issues raised by the customers. The Key Account program includes: energy audits, power conditioning audits, power conditioning supply analysis, bill and rate analysis, problem resolution, and cogeneration services.

7

Other

1Tree Power Program

The JEA will continue to participate in the American Public Power Association's Tree Power program and plant at least 300,000 trees during the project period of 1993 to 1997. It is estimated that 3,400 tons of CO_2 emissions will be sequestered annually by this program. Additional CO_2 avoidance may result from this program through residential and commercial cooling benefits. Numerical impacts can not be estimated at this time.

In addition, the JEA is studying the planting of approximately 210,000 trees on 300 acres of buffer lands at existing facilities. It is estimated that this will sequester another 2,240 tons of CO_2 annually.

9SUMMARY

The Jacksonville Electric Authority's Demand Side Management Plan is designed to meet the conservation goals established by the FPSC for the JEA. The DSM Plan consists of three residential programs and one commercial program.

The JEA has considered low income participants in its plan. The JEA will continue its efforts to enhance low income individuals' benefit from conservation programs.

The JEA’s DSM Plan concentrates on educating customers, local building contractors, and local building inspectors on conservation measures and improvements in home design. The JEA considers these DSM programs to be part of its efforts to satisfy its customers. These programs will help improve customer satisfaction by increasing the number of valuable energy services available to the JEA's customers. As with prior conservation plans, the JEA anticipates that the DSM Plan will likely change over time due to program experience, changes in the needs of the JEA and its customers, and options which may become available. The JEA’s DSM Plan enhances JEA’s current conservation efforts and increases customer satisfaction. The DSM Plan is expected to achieve the JEA’s conservation goals as approved by the FPSC.

APPENDIX A

11DEMAND-SIDE MANAGEMENT SUMMARY

1

Residential Market Segment Demand and Energy Data (Attachment D)

3Commercial/Industrial Market Segment Demand and Energy Data (Attachment E)

5Summary of Demand-Side Management Programs Included in the Proposed Plan (Attachment F)

13RESIDENTIAL PROGRAMS COST EFFECTIVENESS RUNS

1Contractor and Building Inspector Continuing Education Program

1Constructing an Energy Efficient New Home
2Duct Leakage and Repair

3Appliance Efficiency Education
1High Efficiency Pool Pump
2Remove Second Refrigerators
3Remove Second Freezer

5Low Income Energy Audits