

STEEL
HECTOR
DAVIS

Steel Hector & Davis
215 South Monroe Suite 101
Tallahassee Florida 32301
904 222 2300
904 222 8410 Fax

ORIGINAL
FILE COPY

Charles A. Guyton
904 222 3423

May 6, 1997

By Hand Delivery

Blanca S. Bayó, Director
Records and Reporting
Florida Public Service Commission
4075 Esplanade Way, Room 110
Tallahassee, Florida 32399-0850

970541-EG

Re: Residential Building Envelope Program

Dear Ms. Bayó:

Enclosed for filing on behalf of Florida Power & Light Company are the original and fifteen (15) copies of Petition For Modification of Florida Power & Light Company's Residential Building Envelope Program.

If you or your Staff have any questions regarding this filing, please contact me

Very truly yours,



Charles A. Guyton

CAG/ld
encs.
TAL/19760-1

Main
305 000
305 001 Fax

West Palm Beach
561 650 7200
561 655 1509 Fax

Key West
305 292 7272
305 292 7271 Fax

DOCUMENT NUMBER-DATE
01480 MAY-65
582 951 4105
FPSC RECORDS/REPORTING

ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Modification of) Docket No.
Florida Power & Light Company's)
Residential Building Envelope Program) Filed: May 6, 1997

**PETITION FOR MODIFICATION OF FLORIDA POWER & LIGHT
COMPANY'S RESIDENTIAL BUILDING ENVELOPE PROGRAM**

Florida Power & Light Company ("FPL"), pursuant to Section 366.82(2), Florida Statutes (1995), hereby petitions the Florida Public Service Commission ("Commission") to (1) approve the modifications to FPL's Residential Building Envelope Program set forth in this petition and attachments, (2) allow FPL to recover reasonable and prudent expenditures for the modified Residential Building Envelope Program, and (3) include FPL's modified Residential Building Envelope Program as part of FPL's approved DSM Plan. The grounds for this petition are.

1. FPL's address is 9250 West Flagler Street, Miami Florida, 33174. Correspondence, notices, orders and other documents concerning this petition should be sent to:

Matthew M. Childs, P.A.
Charles A. Guyton
Steel Hector & Davis LLP
Suite 601, 215 S. Monroe St.
Tallahassee, Florida 32301

William G. Walker
Vice President, Regulatory Affairs
Florida Power & Light Company
9250 West Flagler Street
Miami, Florida 33174

2. FPL is an investor-owned electric utility regulated by the Commission pursuant to Chapter 366, Florida Statutes. FPL is subject to the Florida Energy Efficiency Conservation Act ("FEECA"), Section 366.80-85, 413.519, Florida Statutes (1995), and its Energy Conservation Cost Recovery ("ECCR") clause is subject to the Commission's jurisdiction. FPL has

DOCUMENT NUMBER-DATE
04480 MAY-65
FPSC-RECORDS/REPORTING

Commission approved conservation goals. See, Order No. PSC-94-1313-FOF-EG issued on October 25, 1994. The Commission has previously approved a FPL DSM Plan to meet the goals approved for FPL. See, Order Nos. 95-1343-S-EG, 95-1343A-S-EG. As part of that DSM Plan the Commission approved FPL's Residential Building Envelope Program. FPL has a substantial interest in whether this program is modified as requested by FPL in this petition, approved as part of FPL's DSM Plan, and authorized for cost recovery.

3. The objective of the Residential Building Envelope Program is to encourage qualified customers to install an energy-efficient building envelope measure that will cost-effectively reduce FPL's coincident peak air conditioning load and customer energy consumption. Under this program FPL provides incentives to customers to facilitate the installation of efficient building envelope measures. The Residential Building Envelope Program, as FPL proposes to modify it, is more fully described in Appendix A attached to this petition.

4. The Residential Building Envelope Program, as modified, will help advance the policy objectives set forth in Rule 25-17.001, Florida Administrative Code and the FEECA. As shown in Appendix A, the Residential Building Envelope Program will reduce an average participant's summer and winter peak demand and energy consumption by .266 kW Summer demand, .520 kW Winter demand, and 537 annual kWh, respectively.

5. The Residential Building Envelope Program, as modified, is projected to be cost-effective. Appendix B, attached hereto, shows the results of the cost-effectiveness analyses of the program using the Commission's methodology prescribed in Rule 25-17.008, Florida

Administrative Code and supply option cost and performance assumptions from FPL's most recent resource planning study. FPL seeks to modify the Residential Building Envelope Program to make it cost-effective under current planning assumptions. To make the Residential Building Envelope Program cost-effective, FPL has (a) dropped attic / ceiling / roof insulation between R19 and R30 as an eligible measure, and (b) dropped window film, shade screens and high performance windows as eligible measures, and (c) restructured the incentives for the remaining eligible measure, attic/ceiling/roof insulation up to R19, from the current range of \$346 to \$348 per summer kW demand reduction to a level not to exceed \$614 per summer kW demand reduction. None of the measures being dropped are cost-effective; the effect of dropping these measures is to achieve, for the Program, as modified, a benefit/cost ratio greater than 1.0 under the RIM and Participants tests, and to allow the incentive for the remaining measure to increase.

6. The Residential Building Envelope Program, as modified, is directly monitorable and will yield measurable results. FPL's monitoring plan is described in Section VI of Appendix A. This is the same monitoring plan which FPL has been following in the existing program, and it has yielded measurable results.

7. FPL is not aware of any disputed issues of material fact.

8. FPL respectfully requests that this petition be processed with the Commission's Proposed Agency Action procedure, which is recognized in Section 120.80(13)(b), Florida Statutes.

WHEREFORE, FPL respectfully petitions the Commission to (1) approve the Residential Building Envelope Program, as modified, (2) allow FPL to recover reasonable and prudent expenditures for the Residential Building Envelope Program, as modified, through FPL's ECCR clause, and (3) approve the Residential Building Envelope Program, as modified, as part of FPL's approved DSM Plan.

Respectfully submitted,

STEEL HECTOR & DAVIS LLP
Suite 601, 215 S. Monroe Street
Tallahassee, Florida 32301-1804

Attorneys for Florida Power
& Light Company

By: _____
Charles A. Guyton

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Modification of) Docket No.
Florida Power & Light Company's)
Residential Building Envelope Program) Filed: May 6, 1997

CERTIFICATE OF SERVICE

I hereby certify that on this the 6th day of May, 1997, a copy of the foregoing Petition for Modification of Florida Power & Light Company's Residential Building Envelope Program was served by hand delivery* or First Class United States Mail on the following:

Robert V. Elias, Esquire*
Chief of Electric & Gas
Division of Legal Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Jack Shreve, Esquire
Public Counsel
Office of Public Counsel
Room 812
111 West Madison Street
Tallahassee, Florida 32399-1400

By _____
Charles A. Guyton

APPENDIX A
RESIDENTIAL BUILDING ENVELOPE PROGRAM

I. Program Description

The Residential Building Envelope Program is designed to encourage qualified customers to install energy-efficient building envelope measures that will cost-effectively reduce FPL's coincident peak air conditioning load and customer energy consumption. The objective is accomplished by providing an incentive to customers to facilitate the installation of efficient building envelope measures

FPL plans to make residential customers aware of this program through contractors, retail outlets and other trade allies, appropriate advertising and promotion activities and direct contact with potential participants by FPL personnel. FPL will continue to facilitate the application of this program to potential low income participants. This will be accomplished by targeting public agencies and governmental housing authorities for program education and implementation. For example, the qualification of a public agency or housing authority as a participating contractor will assist in lowering the installation costs of measures for low income participants. FPL also will assist agencies in the selection of qualified contractors for the installation of the qualified measure if requested to do so.

II. Summary of Program Changes

FPL's existing Residential Building Envelope Program includes attic / ceiling / roof insulation up to R-30, window film, shade screens and high performance windows. Based on an analysis of each of these technologies, only attic / ceiling / roof insulation up to R-19 was found to be cost-effective using the Commission approved cost-effectiveness methodologies. The revised program will only include this cost-effective technology. There will also be a restructuring of the program incentives from the current range of \$346 to \$348 per summer kw demand reduction to no more than \$614 per summer kw demand reduction. This change is possible due to the elimination of non-cost effective measures.

III. Description of Program Administration

The revised Residential Building Envelope Program will be available to all existing residential customers served by FPL who have whole-house electric air conditioning. Whole-house electric air conditioning is defined as a central system(s) or sufficient window/wall units to provide cooling to the majority of the living spaces of the house. Installations required by federal, state, or local building or energy codes when additions and/or renovations are made to existing buildings are not eligible for incentives offered by this program.

An energy audit must be performed under FPL's Residential Conservation Service Program prior to FPL issuing an incentive (Watt-Saver Certificate) for the building envelope measure. Incentive amounts will be based upon the measure's kw reduction and contribution to FPL's coincident peak air conditioning load. An incentive table will be included in FPL's program standards using an

incentive of no more than \$614 per summer kw demand reduction, which is based on cost-effectiveness analyses included in Appendix B. Watt-Saver Certificates must be given to customers by an FPL representative prior to the installation of the qualifying envelope measure. When the installation is completed, the customer signs and gives the Watt-Saver to the contractor as partial payment for the installation. The contractor then completes the Watt-Saver for payment by FPL.

To be eligible for an incentive, the qualifying building envelope measure must be installed according to the manufacturer's recommendations and specifications by contractors who are certified, licensed and insured as deemed necessary by applicable state or local governmental agencies and FPL. All performance claims must be supported by testing procedures and documentation which are acceptable to FPL. All installations must be accessible for verification by FPL.

All incentive requests will be tracked by a computer system, which will record a history of the incentive payments made to customers/contractors.

FPL will file Program Standards for this program. The Program Standards will be subject to periodic review and may change over time based on factors such as, but not limited to, technological advances, operational needs, program results, application assumptions, and incentive amounts.

IV. Projected Participation and Savings

The projected demand and energy savings for a typical installation are .266 kw (summer) and .520 kw (winter), 537 annual kwh. The energy consumption and demand reduction projections are based on evaluation results.

V. Cost-Effectiveness Analysis

FPL has used the Commission approved cost-effectiveness methodologies required by Rule 25-17.008 to determine the cost-effectiveness of this program. These cost-effectiveness analyses can be found in Appendix B. These analyses show the following benefit-cost ratios for the Residential Building Envelope Program: 2.65 Participants, 1.02 RIM, 1.79 TRC.

VI. Program Monitoring and Evaluation:

The impact of this program on demand and energy consumption will be evaluated over time by FPL. Baseline data will be developed from non-participants, and participants' data will be compared against non-participants' data to establish usage patterns and demand impacts and to validate engineering assumptions.

FPL will utilize any or all three major impact evaluation analysis methods in a manner that most cost-effectively meets the overall impact evaluation objectives -- engineering analysis, statistical billing analysis, and on-site metering research. As these evaluations proceed, the components to be analyzed and the periods for which data is available will increase, resulting in continual enhancements in the scope and accuracy of reported evaluation results.

Appendix B

Cost-effectiveness Run

INPUT DATA - PART 1 CONTINUED
PROGRAM METHOD SELECTED REV_REQ
PROGRAM NAME Residential Building Envelope

I PROGRAM DEMAND SAVINGS & LINE LOSSES

(1) CUSTOMER kW REDUCTION AT METER	0.30 kW
(2) GENERATOR kW REDUCTION PER CUSTOMER	0.39 kW
(3) kW LINE LOSS PERCENTAGE	8.32 %
(4) GENERATOR kWh REDUCTION PER CUSTOMER	575.9 kWh
(5) kWh LINE LOSS PERCENTAGE	6.75 %
(6) GROUP LINE LOSS MULTIPLIER	1.0000
(7) CUSTOMER kWh INCREASE AT METER	0.0 kWh

II ECONOMIC LIFE & K FACTORS

(1) STUDY PERIOD FOR THE CONSERVATION PROGRAM	25 YEARS
(2) GENERATOR ECONOMIC LIFE	30 YEARS
(3) T&D ECONOMIC LIFE	35 YEARS
(4) K FACTOR FOR GENERATION	1.61229
(5) K FACTOR FOR T & D	1.44767

III UTILITY & CUSTOMER COSTS

(1) UTILITY NON RECURRING COST PER CUSTOMER	---	\$/CUST
(2) UTILITY RECURRING COST PER CUSTOMER	---	\$/CUST
(3) UTILITY COST ESCALATION RATE	---	%
(4) CUSTOMER EQUIPMENT COST	---	\$/CUST
(5) CUSTOMER EQUIPMENT ESCALATION RATE	---	%
(6) CUSTOMER O & M COST	---	\$/CUST/YR
(7) CUSTOMER O & M COST ESCALATION RATE	---	%
(8) INCREASED SUPPLY COSTS	---	\$/CUST/YR
(9) SUPPLY COSTS ESCALATION RATES	---	%
(10) UTILITY DISCOUNT RATE	8.22 %	
(11) UTILITY AFUDC RATE	10.70 %	
(12) UTILITY NON RECURRING REBATE/INCENTIVE	---	\$/CUST
(13) UTILITY RECURRING REBATE/INCENTIVE	---	\$/CUST
(14) UTILITY REBATE/INCENTIVE ESCALATION RATE	---	%

IV AVOIDED GENERATOR AND T&D COSTS

(1) BASE YEAR	1988
(2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT	2001
(3) IN-SERVICE YEAR FOR AVOIDED T&D	1999-2001
(4) BASE YEAR AVOIDED GENERATING COST	285 \$/kW
(5) BASE YEAR AVOIDED TRANSMISSION COST	70 \$/kW
(6) BASE YEAR DISTRIBUTION COST	50 \$/kW
(7) GEN. TRAN & DIST COST ESCALATION RATE	2.55 %
(8) GENERATOR FIXED O & M COST	6 \$/kW/YR
(9) GENERATOR FIXED O&M ESCALATION RATE	3.34 %
(10) TRANSMISSION FIXED O & M COST	2.73 \$/kW
(11) DISTRIBUTION FIXED O & M COST	13.01 \$/kW
(12) T&D FIXED O&M ESCALATION RATE	3.34 %
(13) AVOIDED GEN UNIT VARIABLE O & M COSTS	0.030 CENTS/kWh
(14) GENERATOR VARIABLE O&M COST ESCALATION RATE	2.47 %
(15) GENERATOR CAPACITY FACTOR	30% (In-service year)
(16) AVOIDED GENERATING UNIT FUEL COST	1.88 CENTS PER kWh (In-service year)
(17) AVOIDED GEN UNIT FUEL COST ESCALATION RATE	5.03 %

V NON-FUEL ENERGY AND DEMAND CHARGES

(1) NON FUEL COST IN CUSTOMER BILL	---	CENTS/kWh
(2) NON-FUEL COST ESCALATION RATE	---	%
(3) DEMAND CHARGE IN CUSTOMER BILL	---	\$/kW/D
(4) DEMAND CHARGE ESCALATION RATE	---	%

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK
 -- VALUE SHOWN IS FOR FIRST YEAR ONLY (VALUE VARIES OVER TIME)
 --- PROGRAM COST CALCULATION VALUES ARE SHOWN ON PAGE 2

INPUT DATA PART 1 CONTINUED
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

YEAR	(1) UTILITY PROGRAM COSTS WITHOUT INCENTIVES \$(000)	(2) UTILITY INCENTIVES \$(000)	(3) OTHER UTILITY COSTS \$(000)	(4) TOTAL UTILITY PROGRAM COSTS \$(000)	(5) ENERGY CHARGE REVENUE LOSSES \$(000)	(6) DEMAND CHARGE REVENUE LOSSES \$(000)	(7) PARTICIPANT EQUIPMENT COSTS \$(000)	(8) PARTICIPANT O&M COSTS \$(000)	(9) OTHER PARTICIPANT COSTS \$(000)	(10) TOTAL PARTICIPANT COSTS \$(000)
1996	0	0	0	0	0	0	0	0	0	
1997	0	0	0	0	0	0	0	0	0	
1998	278	2,148	0	2,424	257	0	4,184	0	4,184	
1999	224	1,705	0	1,929	738	0	3,388	0	3,388	
2000	170	1,282	0	1,451	1,087	0	2,588	0	2,588	
2001	0	0	0	0	1,237	0	0	0	0	
2002	0	0	0	0	1,240	0	0	0	0	
2003	0	0	0	0	1,250	0	0	0	0	
2004	0	0	0	0	1,270	0	0	0	0	
2005	0	0	0	0	1,288	0	0	0	0	
2006	0	0	0	0	1,308	0	0	0	0	
2007	0	0	0	0	1,330	0	0	0	0	
2008	0	0	0	0	1,385	0	0	0	0	
2009	0	0	0	0	1,388	0	0	0	0	
2010	0	0	0	0	1,511	0	0	0	0	
2011	0	0	0	0	1,827	0	0	0	0	
2012	0	0	0	0	1,888	0	0	0	0	
2013	0	0	0	0	1,888	0	0	0	0	
2014	0	0	0	0	1,833	0	0	0	0	
2015	0	0	0	0	1,631	0	0	0	0	
2016	0	0	0	0	1,654	0	0	0	0	
2017	0	0	0	0	1,883	0	0	0	0	
2018	0	0	0	0	1,712	0	0	0	0	
2019	0	0	0	0	1,741	0	0	0	0	
2020	0	0	0	0	1,772	0	0	0	0	
NOM	670	5,114	0	5,784	31,748	0	10,148	0	10,148	
NPV	823	3,885	0	4,518	10,388	0	7,918	0	7,918	

* SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK

** NEGATIVE COSTS WILL BE CALCULATED AS POSITIVE BENEFITS FOR TRC AND RIM TESTS

CALCULATION OF GEN K FACTOR
PROGRAM METHOD: SELECTED REV. REQ
PROGRAM NAME Residential Building Envelope

2	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
YEAR	MID-YEAR RATE BASE \$(000)	DEBT \$(000)	PREFERRED STOCK \$(000)	COMMON EQUITY \$(000)	INCOME TAXES \$(000)	OTHER TAXES & INSURANCE \$(000)	DEPREC \$(000)	DEFERRED TAXES \$(000)	TOTAL FIXED CHARGES \$(000)	PRESENT WORTH FIXED CHARGES \$(000)	CUMULATIVE PW FIXED CHARGES \$(000)
2001	4,152	150	0	285	176	50	130	9	826	826	826
2002	3,877	152	0	273	113	50	130	63	790	732	1,557
2003	3,779	145	0	260	113	50	130	55	770	645	2,203
2004	3,580	137	0	247	113	50	130	47	741	589	2,771
2005	3,408	130	0	234	112	50	130	40	714	502	3,273
2006	3,233	124	0	222	112	50	130	33	688	442	3,715
2007	3,084	117	0	211	111	50	130	27	662	380	4,105
2008	2,902	111	0	199	109	50	130	21	638	344	4,448
2009	2,742	105	0	188	103	50	130	20	614	303	4,752
2010	2,594	99	0	178	97	50	130	20	590	287	5,019
2011	2,425	93	0	167	90	50	130	20	566	234	5,253
2012	2,287	87	0	158	83	50	130	20	542	205	5,498
2013	2,168	81	0	145	76	50	130	20	519	180	5,638
2014	1,949	75	0	134	69	50	130	20	495	157	5,788
2015	1,791	69	0	123	62	50	130	20	471	137	5,932
2016	1,632	62	0	112	56	50	130	20	447	119	6,051
2017	1,473	56	0	101	49	50	130	20	423	103	6,156
2018	1,315	50	0	90	42	50	130	20	399	89	6,244
2019	1,158	44	0	79	36	50	130	20	376	77	6,320
2020	997	38	0	69	29	50	130	20	352	68	6,388
2021	898	33	0	59	27	50	130	(15)	331	57	6,443
2022	799	29	0	52	26	50	130	(51)	315	49	6,482
2023	692	26	0	46	24	50	130	(51)	301	43	6,538
2024	574	22	0	39	20	50	130	(51)	289	39	6,573
2025	485	19	0	33	18	50	130	(51)	275	33	6,608
2026	397	15	0	27	17	50	130	(51)	262	29	6,636
2027	309	12	0	21	16	50	130	(51)	248	25	6,660
2028	221	8	0	15	15	50	130	(51)	235	22	6,682
2029	132	5	0	9	14	50	130	(51)	222	19	6,701
2030	44	2	0	3	13	50	130	(51)	209	16	6,717

IN SERVICE COST (\$000) 4,168
 IN SERVICE YEAR 2001
 BOOK LIFE (YRS) 30
 EPREC TAX RATE 38.575
 DISCOUNT RATE 9.22%
 OTAX & INS RATE 1.40%

CAPITAL STRUCTURE

SOURCE	WEIGHT	COST
DEBT	45%	8.50 %
P/S	0%	0.00 %
C/S	55%	12.50 %

K-FACTOR = CPWFC / IN-SVC COST = 1.61229

DEFERRED TAX AND MID YEAR RATE BASE CALCULATION
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)	15)
YEAR	TAX DEPRECIATION SCHEDULE	TAX DEPRECIATION \$(000)	ACCUMULATED TAX DEPRECIATION \$(000)	BOOK DEPRECIATION \$(000)	ACCUMULATED BOOK DEPRECIATION \$(000)	BOOK DEPRECIATION FOR DEFERRED TAX \$(000)	ACCUMULATED BOOK DEPR FOR DEFERRED TAX \$(000)	DEFERRED TAX DUE TO DEPRECIATION \$(000)	TOTAL EQUITY AFUDC \$(000)	BOOK DEPR RATE MINUS 1/LIFE	(10)/(11) TAX RATE \$(000)	SALVAGE TAX RATE \$(000)	ANNUAL DEFERRED TAX (9)-(12)+(13) \$(000)	ACCUMULATED DEFERRED TAX \$(000)
2001	3.73%	153	153	130	130	131	131	9	231	0	0	0	9	(51)
2002	7.22%	295	448	130	278	131	262	63	231	0	0	0	63	12
2003	6.68%	273	722	130	417	131	393	56	231	0	0	0	56	67
2004	6.18%	253	974	130	565	131	525	47	231	0	0	0	47	114
2005	5.71%	234	1,208	130	694	131	656	40	231	0	0	0	40	153
2006	5.28%	216	1,424	130	833	131	787	33	231	0	0	0	33	186
2007	4.88%	200	1,624	130	972	131	918	27	231	0	0	0	27	213
2008	4.52%	185	1,809	130	1,111	131	1,048	21	231	0	0	0	21	234
2009	4.19%	182	1,982	130	1,250	131	1,180	20	231	0	0	0	20	254
2010	4.08%	182	2,174	130	1,389	131	1,312	20	231	0	0	0	20	273
2011	4.08%	182	2,356	130	1,528	131	1,443	20	231	0	0	0	20	283
2012	4.08%	182	2,538	130	1,668	131	1,574	20	231	0	0	0	20	312
2013	4.08%	182	2,721	130	1,808	131	1,705	20	231	0	0	0	20	332
2014	4.08%	182	2,904	130	1,944	131	1,836	20	231	0	0	0	20	362
2015	4.08%	182	3,086	130	2,083	131	1,967	20	231	0	0	0	20	372
2016	4.08%	182	3,269	130	2,222	131	2,098	20	231	0	0	0	20	382
2017	4.08%	182	3,451	130	2,361	131	2,230	20	231	0	0	0	20	411
2018	4.08%	182	3,634	130	2,500	131	2,361	20	231	0	0	0	20	431
2019	4.08%	182	3,816	130	2,639	131	2,492	20	231	0	0	0	20	451
2020	4.08%	182	3,999	130	2,777	131	2,623	20	231	0	0	0	20	471
2021	2.23%	91	4,080	130	2,916	131	2,754	(18)	231	0	0	0	(18)	455
2022	0.00%	0	4,080	130	3,056	131	2,885	(51)	231	0	0	0	(51)	405
2023	0.00%	0	4,080	130	3,194	131	3,017	(51)	231	0	0	0	(51)	354
2024	0.00%	0	4,080	130	3,333	131	3,148	(51)	231	0	0	0	(51)	304
2025	0.00%	0	4,080	130	3,472	131	3,279	(51)	231	0	0	0	(51)	253
2026	0.00%	0	4,080	130	3,611	131	3,410	(51)	231	0	0	0	(51)	202
2027	0.00%	0	4,080	130	3,750	131	3,541	(51)	231	0	0	0	(51)	152
2028	0.00%	0	4,080	130	3,889	131	3,673	(51)	231	0	0	0	(51)	101
2029	0.00%	0	4,080	130	4,027	131	3,804	(51)	231	0	0	0	(51)	51
2030	0.00%	0	4,080	130	4,166	131	3,935	(51)	231	0	0	0	(51)	0

SALVAGE / REMOVAL COST	0.00
YEAR SALVAGE / COST OF REMOVAL	2029
DEFERRED TAXES DURING CONSTRUCTION (SEE PAGE 5)	(60)
TOTAL EQUITY AFUDC CAPITALIZED (SEE PAGE 5)	231
BOOK DEPR RATE - 1/USEFUL LIFE	3.33%

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

(1)	(2)	(3)	(4)	(5) END OF YEAR NET PLANT IN SERVICE	(5a)* ACCUMULATED DEPRECIATION	(5b)* ACCUMULATED DEF TAXES	(6) BEGINNING YEAR RATE BASE	(7) ENDING OF YEAR RATE BASE	(8) MID-YEAR RATE BASE
YEAR	TAX DEPRECIATION SCHEDULE	TAX DEPRECIATION \$(000)	DEFERRED TAX \$(000)	PLANT IN SERVICE \$(000)	DEPRECIATION \$(000)	DEF TAXES \$(000)	BASE \$(000)	BASE \$(000)	BASE \$(000)
2001	3.75%	153	0	4,027	130	(51)	4,228	4,078	4,152
2002	7.22%	285	63	3,888	278	12	4,078	3,878	3,977
2003	6.88%	273	55	3,750	417	67	3,878	3,683	3,779
2004	6.18%	253	47	3,611	565	114	3,683	3,487	3,580
2005	5.71%	234	40	3,472	684	153	3,487	3,318	3,408
2006	5.29%	216	33	3,333	833	188	3,318	3,147	3,233
2007	4.88%	200	27	3,194	972	213	3,147	2,981	3,084
2008	4.52%	185	21	3,055	1,111	233	2,981	2,822	2,902
2009	4.48%	182	20	2,916	1,250	253	2,822	2,683	2,742
2010	4.48%	182	20	2,777	1,389	273	2,683	2,505	2,584
2011	4.48%	182	20	2,638	1,528	293	2,505	2,348	2,425
2012	4.48%	182	20	2,500	1,668	312	2,348	2,187	2,287
2013	4.48%	182	20	2,361	1,808	332	2,187	2,029	2,108
2014	4.48%	182	20	2,222	1,944	352	2,029	1,870	1,948
2015	4.48%	182	20	2,083	2,083	372	1,870	1,711	1,791
2016	4.48%	182	20	1,944	2,222	382	1,711	1,553	1,632
2017	4.48%	182	20	1,805	2,361	411	1,553	1,394	1,473
2018	4.48%	182	20	1,666	2,500	431	1,394	1,236	1,315
2019	4.48%	182	20	1,528	2,639	451	1,236	1,077	1,156
2020	4.48%	182	20	1,389	2,777	471	1,077	918	987
2021	2.23%	91	(15)	1,250	2,916	488	918	794	868
2022	0.00%	0	(51)	1,111	3,055	488	794	708	780
2023	0.00%	0	(51)	972	3,194	354	708	618	682
2024	0.00%	0	(51)	833	3,333	304	618	530	574
2025	0.00%	0	(51)	694	3,472	253	530	441	485
2026	0.00%	0	(51)	555	3,611	202	441	353	397
2027	0.00%	0	(51)	417	3,750	152	353	265	309
2028	0.00%	0	(51)	278	3,888	101	265	177	221
2029	0.00%	0	(51)	139	4,027	51	177	88	132
2030	0.00%	0	(51)	0	4,166	0	88	0	44

* Column not specified in workbook

(1) YEAR	(2) NO YEARS BEFORE IN-SERVICE	(3) PLANT ESCALATION RATE	(4) CUMULATIVE ESCALATION FACTOR	(5) YEARLY EXPENDITURE (%)	(6) ANNUAL SPENDING (\$kW)	(7) CUMULATIVE AVERAGE SPENDING (\$kW)
1986	-5	0.00%	1.000	0.00%	0.00	0.00
1987	-4	2.55%	1.028	0.00%	0.00	0.00
1988	-3	2.55%	1.052	0.00%	0.00	0.00
1989	-2	2.67%	1.080	38.77%	113.15	56.57
2000	-1	2.88%	1.111	63.23%	200.20	213.25

100.00% 313.34

YEAR	(2) NO YEARS BEFORE IN-SERVICE	(8) CUMULATIVE SPENDING WITH AFUDC (\$kW)	(8a) [*] DEBT AFUDC (\$kW)	(8b) [*] CUMULATIVE DEBT AFUDC (\$kW)	(9) YEARLY TOTAL AFUDC (\$kW)	(8a) [*] CUMULATIVE TOTAL AFUDC (\$kW)	(8b) [*] CONSTRUCTION PERIOD INTEREST (\$kW)	(9c) [*] CUMULATIVE CPI (\$kW)	(9d) [*] DEFERRED TAXES (\$kW)	(9e) [*] CUMULATIVE DEFERRED TAXES (\$kW)	(10) INCREMENTAL YEAR-END BOOK VALUE (\$kW)	(11) CUMULATIVE YEAR-END BOOK VALUE (\$kW)
1986	-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1987	-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1988	-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1989	-2	56.57	2.16	2.16	6.05	6.05	4.81	4.81	(1.02)	(1.02)	118.20	118.20
2000	-1	218.30	8.43	10.89	23.57	28.63	18.53	23.34	(3.90)	(4.92)	223.77	342.97

10.58

28.63

23.34

(4.92)

342.97

IN SERVICE YEAR
PLANT COSTS
AFUDC RATE

2001
285
10.70%

	BOOK BASIS		
	BOOK BASIS	FOR DEF TAX	TAX BASIS
CONSTRUCTION CASH	3,808	3,808	3,808
EQUITY AFUDC	231		
DEBT AFUDC	129	129	
CPI			284
TOTAL	4,168	3,935	4,092

* Column not specified in workbook.

INPUT DATA -- PART 2
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

(1) YEAR	(2) CUMULATIVE TOTAL PARTICIPATING CUSTOMERS	(3) ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS	(4) UTILITY AVERAGE SYSTEM FUEL COST (CAWh)	(5) AVOIDED MARGINAL FUEL COST (CAWh)	(6)* INCREASED MARGINAL FUEL COST (CAWh)	(7) REPLACEMENT FUEL COST (CAWh)	(8) PROGRAM kW EFFECTIVENESS FACTOR	(9) PROGRAM kWh EFFECTIVENESS FACTOR
1996	0	0	0.00	2.63	2.41	0.00	1.00	1.00
1997	0	0	0.00	2.63	2.43	0.00	1.00	1.00
1998	13,146	13,146	0.00	2.82	2.54	0.00	1.00	1.00
1999	23,579	23,579	0.00	2.94	2.58	0.00	1.00	1.00
2000	31,300	31,300	0.00	3.18	2.69	0.00	1.00	1.00
2001	31,300	31,300	0.00	3.59	2.91	2.28	1.00	1.00
2002	31,300	31,300	0.00	3.48	2.89	2.50	1.00	1.00
2003	31,300	31,300	0.00	3.47	2.98	2.49	1.00	1.00
2004	31,300	31,300	0.00	3.76	3.08	2.98	1.00	1.00
2005	31,300	31,300	0.00	3.91	3.21	3.22	1.00	1.00
2006	31,300	31,300	0.00	4.14	3.41	3.45	1.00	1.00
2007	31,300	31,300	0.00	4.40	3.62	3.76	1.00	1.00
2008	31,300	31,300	0.00	4.55	3.77	3.67	1.00	1.00
2008	31,300	31,300	0.00	4.81	3.97	3.93	1.00	1.00
2010	31,300	31,300	0.00	5.13	4.08	4.38	1.00	1.00
2011	31,300	31,300	0.00	5.41	4.42	4.76	1.00	1.00
2012	31,300	31,300	0.00	5.70	4.63	4.74	1.00	1.00
2013	31,300	31,300	0.00	5.89	4.72	5.02	1.00	1.00
2014	31,300	31,300	0.00	6.11	4.88	5.08	1.00	1.00
2015	31,300	31,300	0.00	6.58	5.30	5.67	1.00	1.00
2016	31,300	31,300	0.00	6.82	5.43	5.80	1.00	1.00
2017	31,300	31,300	0.00	7.03	5.98	5.95	1.00	1.00
2018	31,300	31,300	0.00	7.38	5.81	6.33	1.00	1.00
2019	31,300	31,300	0.00	7.63	5.98	6.44	1.00	1.00
2020	31,300	31,300	0.00	7.82	6.14	6.53	1.00	1.00

* THIS COLUMN IS USED ONLY FOR LOAD SHIFTING PROGRAMS WHICH SHIFT CONSUMPTION TO OFF-PEAK PERIODS.
 THE VALUES REPRESENT THE OFF PEAK SYSTEM FUEL COSTS.

AVOIDED GENERATING BENEFITS
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

YEAR	(2) AVOIDED GEN UNIT CAPACITY COST \$(000)	(3) AVOIDED GEN UNIT FIXED O&M \$(000)	(4) AVOIDED GEN UNIT VARIABLE O&M \$(000)	(5) AVOIDED GEN UNIT FUEL COST \$(000)	(6) REPLACEMENT FUEL COST \$(000)	(7) AVOIDED GEN UNIT BENEFITS \$(000)
1996	0	0	0	0	0	0
1997	0	0	0	0	0	0
1998	0	0	0	0	0	0
1999	0	0	0	0	0	0
2000	0	0	0	0	0	0
2001	826	116	11	588	717	834
2002	798	121	8	471	585	804
2003	770	126	6	385	438	859
2004	741	132	7	435	539	775
2005	714	137	7	518	608	785
2006	688	143	8	630	680	778
2007	662	148	8	707	786	771
2008	636	153	8	742	736	808
2009	614	163	7	827	888	745
2010	580	170	4	361	442	882
2011	555	177	4	377	474	851
2012	542	185	6	711	838	808
2013	519	180	8	715	838	888
2014	485	202	8	671	788	888
2015	471	211	8	819	838	572
2016	447	221	7	871	788	550
2017	423	230	6	540	654	545
2018	388	240	7	657	775	828
2019	376	280	7	851	783	820
2020	362	281	6	611	728	804

NOM	11,591	3,882	143	11,804	13,776	13,484
NPV	4,108	1,000	47	3,589	4,148	4,587

AVOIDED T&D AND PROGRAM FUEL SAVINGS
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8a)*
YEAR	AVOIDED TRANSMISSION CAP COST \$(000)	AVOIDED TRANSMISSION O&M COST \$(000)	TOTAL AVOIDED TRANSMISSION COST \$(000)	AVOIDED DISTRIBUTION CAP COST \$(000)	AVOIDED DISTRIBUTION O&M COST \$(000)	TOTAL AVOIDED DISTRIBUTION COST \$(000)	PROGRAM FUEL SAVINGS \$(000)	PROGRAM OFF-PEAK PAYBACK \$(000)
1998	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	117	0
1995	85	15	82	43	67	111	347	0
2000	117	29	146	77	125	252	574	0
2001	153	40	193	100	173	273	755	0
2002	147	41	188	88	180	277	725	0
2003	142	43	185	93	189	281	725	0
2004	138	46	184	99	188	285	791	0
2005	131	47	178	88	204	290	821	0
2006	126	48	175	93	213	285	872	0
2007	121	51	172	79	222	302	928	0
2008	116	53	170	78	232	308	957	0
2009	112	55	167	73	242	315	1,014	0
2010	107	58	165	70	252	323	1,088	0
2011	102	60	163	67	264	331	1,145	0
2012	98	63	161	64	275	339	1,210	0
2013	93	66	159	61	286	348	1,257	0
2014	88	69	157	58	301	358	1,305	0
2015	84	72	156	55	314	369	1,404	0
2016	79	75	154	52	329	380	1,461	0
2017	74	78	153	49	343	391	1,510	0
2018	70	82	151	46	357	403	1,588	0
2019	66	85	150	43	372	415	1,648	0
2020	61	88	150	40	388	428	1,685	0

NOM	2,289	1,285	3,574	1,489	5,526	7,028	23,934	0
NPV	883	373	1,256	578	1,629	2,208	7,080	0

* THESE VALUES REPRESENT THE COST OF THE INCREASED FUEL CONSUMPTION DUE TO GREATER OFF-PEAK ENERGY USAGE USED FOR LOAD SHIFTING PROGRAMS ONLY

TOTAL RESOURCE COST TEST
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

(1) YEAR	(2) INCREASED SUPPLY COSTS \$(000)	(3) UTILITY PROGRAM COSTS \$(000)	(4) PARTICIPANT PROGRAM COSTS \$(000)	(5) OTHER COSTS \$(000)	(6) TOTAL COSTS \$(000)	(7) AVOIDED GEN UNIT BENEFITS \$(000)	(8) AVOIDED T&D BENEFITS \$(000)	(9) PROGRAM FUEL SAVINGS \$(000)	(10) OTHER BENEFITS \$(000)	(11) TOTAL BENEFITS \$(000)	(12) NET BENEFITS \$(000)	(13) CUMULATIVE DISCOUNTED NET BENEFITS \$(000)
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	278	4,184	0	4,460	0	0	117	0	117	(4,343)	(3,840)
1989	0	224	3,388	0	3,680	0	182	347	0	530	(3,080)	(6,004)
2000	0	170	2,560	0	2,730	0	348	574	0	922	(1,817)	(7,281)
2001	0	0	0	0	0	834	488	755	0	2,086	2,086	(3,989)
2002	0	0	0	0	0	804	488	725	0	1,984	1,984	(4,784)
2003	0	0	0	0	0	888	488	725	0	2,048	2,048	(3,680)
2004	0	0	0	0	0	775	488	791	0	2,032	2,032	(2,677)
2005	0	0	0	0	0	788	488	821	0	2,084	2,084	(1,748)
2006	0	0	0	0	0	778	470	872	0	2,120	2,120	(871)
2007	0	0	0	0	0	771	474	828	0	2,171	2,171	(48)
2008	0	0	0	0	0	808	478	887	0	2,243	2,243	729
2009	0	0	0	0	0	746	482	1,014	0	2,241	2,241	1,441
2010	0	0	0	0	0	882	487	1,088	0	2,389	2,389	2,100
2011	0	0	0	0	0	881	488	1,148	0	2,389	2,389	2,710
2012	0	0	0	0	0	888	800	1,210	0	2,318	2,318	3,276
2013	0	0	0	0	0	888	807	1,257	0	2,389	2,389	3,802
2014	0	0	0	0	0	888	818	1,305	0	2,408	2,408	4,284
2015	0	0	0	0	0	572	828	1,404	0	2,900	2,900	4,782
2016	0	0	0	0	0	880	834	1,481	0	2,548	2,548	5,188
2017	0	0	0	0	0	848	844	1,510	0	2,889	2,889	5,805
2018	0	0	0	0	0	838	864	1,588	0	2,670	2,670	5,888
2019	0	0	0	0	0	830	888	1,648	0	2,733	2,733	6,347
2020	0	0	0	0	0	804	878	1,885	0	2,767	2,767	6,880

NCM	0	670	10,148	0	10,818	13,484	10,580	23,934	0	47,868	37,180
NPV	0	823	7,918	0	8,441	4,587	3,484	7,080	0	15,121	6,680

Discount Rate
 Benefit/Cost Ratio (Col(11) / Col(6))

8.22 %
 1.79

PARTICIPANT COSTS AND BENEFITS
PROGRAM METHOD SELECTED REV_REQ
PROGRAM NAME Residential Building Envelope

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
YEAR	SAVINGS BY PARTICIPANTS BILLS \$(000)	TAX CREDITS \$(000)	UTILITY REBATES \$(000)	OTHER BENEFITS \$(000)	TOTAL BENEFITS \$(000)	CUSTOMER EQUIPMENT COSTS \$(000)	CUSTOMER O&M COSTS \$(000)	OTHER COSTS \$(000)	TOTAL COSTS \$(000)	NET BENEFITS \$(000)	CUMULATIVE DISCOUNTED NET BENEFITS \$(000)
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	422	0	2,148	0	2,570	4,184	0	0	4,184	(1,614)	(1,353)
1989	1,208	0	1,705	0	2,911	3,386	0	0	3,386	(485)	(1,725)
2000	1,782	0	1,282	0	3,063	2,588	0	0	2,588	474	(1,382)
2001	2,029	0	0	0	2,029	0	0	0	0	2,029	(87)
2002	2,682	0	0	0	2,682	0	0	0	0	2,032	1,110
2003	2,048	0	0	0	2,048	0	0	0	0	2,048	2,215
2004	2,682	0	0	0	2,682	0	0	0	0	2,082	3,243
2005	2,678	0	0	0	2,678	0	0	0	0	2,078	4,182
2006	2,141	0	0	0	2,141	0	0	0	0	2,141	5,088
2007	2,188	0	0	0	2,188	0	0	0	0	2,188	5,884
2008	2,237	0	0	0	2,237	0	0	0	0	2,237	6,670
2009	2,282	0	0	0	2,282	0	0	0	0	2,282	7,388
2010	2,478	0	0	0	2,478	0	0	0	0	2,478	8,118
2011	2,804	0	0	0	2,804	0	0	0	0	2,804	8,785
2012	2,888	0	0	0	2,888	0	0	0	0	2,888	9,408
2013	2,888	0	0	0	2,888	0	0	0	0	2,888	9,888
2014	2,677	0	0	0	2,677	0	0	0	0	2,677	10,633
2015	2,674	0	0	0	2,674	0	0	0	0	2,674	11,033
2016	2,712	0	0	0	2,712	0	0	0	0	2,712	11,487
2017	2,798	0	0	0	2,798	0	0	0	0	2,798	11,830
2018	2,808	0	0	0	2,808	0	0	0	0	2,808	12,332
2019	2,885	0	0	0	2,885	0	0	0	0	2,885	12,708
2020	2,885	0	0	0	2,885	0	0	0	0	2,885	13,057

NOM	52,045	0	5,114	0	57,189	10,148	0	0	10,148	47,011
HPV	16,880	0	3,885	0	20,875	7,918	0	0	7,918	13,057

In Service of Gen Unit
Discount Rate
Benefit/Cost Ratio (Col(6) / Col(10))

2001
9.22 %
2.88

RATE IMPACT TEST
 PROGRAM METHOD SELECTED REV_REQ
 PROGRAM NAME Residential Building Envelope

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
YEAR	INCREASED SUPPLY COSTS \$(000)	UTILITY PROGRAM COSTS \$(000)	INCENTIVES \$(000)	REVENUE LOSSES \$(000)	OTHER COSTS \$(000)	TOTAL COSTS \$(000)	AVOIDED GEN UNIT & FUEL BENEFITS \$(000)	AVOIDED T&D BENEFITS \$(000)	REVENUE GAINS \$(000)	OTHER BENEFITS \$(000)	TOTAL BENEFITS \$(000)	NET BENEFITS \$(000)	CUMULATIVE DISCOUNTED NET BENEFITS \$(000)
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	278	2,148	257	0	2,881	117	0	0	117	(2,588)	(2,188)	
1989	0	224	1,705	736	0	2,664	347	182	0	530	(2,125)	(3,781)	
2000	0	170	1,282	1,087	0	2,518	574	348	0	922	(1,586)	(4,802)	
2001	0	0	0	1,237	0	1,237	1,588	488	0	2,056	818	(4,378)	
2002	0	0	0	1,240	0	1,240	1,528	485	0	1,984	756	(3,881)	
2003	0	0	0	1,280	0	1,280	1,583	485	0	2,048	768	(3,601)	
2004	0	0	0	1,270	0	1,270	1,585	488	0	2,032	782	(3,128)	
2005	0	0	0	1,288	0	1,288	1,588	488	0	2,054	788	(2,778)	
2006	0	0	0	1,308	0	1,308	1,680	470	0	2,120	814	(2,433)	
2007	0	0	0	1,330	0	1,330	1,687	474	0	2,171	841	(2,114)	
2008	0	0	0	1,388	0	1,388	1,785	478	0	2,243	878	(1,810)	
2009	0	0	0	1,388	0	1,388	1,738	482	0	2,241	843	(1,542)	
2010	0	0	0	1,511	0	1,511	1,781	487	0	2,288	757	(1,322)	
2011	0	0	0	1,527	0	1,527	1,788	483	0	2,288	781	(1,188)	
2012	0	0	0	1,588	0	1,588	1,818	500	0	2,318	788	(834)	
2013	0	0	0	1,680	0	1,680	1,888	507	0	2,383	783	(788)	
2014	0	0	0	1,633	0	1,633	1,884	516	0	2,408	778	(601)	
2015	0	0	0	1,631	0	1,631	1,875	525	0	2,500	888	(438)	
2016	0	0	0	1,654	0	1,654	2,011	534	0	2,545	881	(288)	
2017	0	0	0	1,683	0	1,683	2,055	544	0	2,588	917	(142)	
2018	0	0	0	1,712	0	1,712	2,116	554	0	2,670	958	(5)	
2019	0	0	0	1,741	0	1,741	2,188	565	0	2,733	981	128	
2020	0	0	0	1,772	0	1,772	2,188	578	0	2,787	985	245	

NOM	0	670	5,114	31,748	0	37,532	37,418	10,580	0	0	47,998	10,487
NPV	0	523	3,985	10,358	0	14,876	11,657	3,484	0	0	15,121	245

Discount Rate
 Benefit/Coast Ratio (Col(12) / Col(7))

9.22 %

1.82