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ORIGINAL  
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Charles A. Guyton

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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

PM 0539-EG


**Re: Residential Air Conditioning 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 Air Conditioning Program.

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

Very truly yours,



Charles A. Guyton

- ACK \_\_\_\_\_
- AFA \_\_\_\_\_
- APP \_\_\_\_\_
- CAF \_\_\_\_\_
- CMU \_\_\_\_\_
- CTR \_\_\_\_\_
- EAG \_\_\_\_\_
- LEG \_\_\_\_\_
- LIN \_\_\_\_\_ CAG/ld
- OPC \_\_\_\_\_ encs.
- RCH \_\_\_\_\_ TAL/19756-1
- SEC \_\_\_\_\_
- WAS \_\_\_\_\_ Miami 305 577 7000  
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- OTH \_\_\_\_\_

West Palm Beach  
561 650 7200  
561 655 1509 Fax

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305 292 7271 Fax

DOCUMENT NUMBER-DATE

04478 MAY-66

582 951 4106 Fax  
FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

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

**PETITION FOR MODIFICATION OF FLORIDA POWER & LIGHT  
COMPANY'S RESIDENTIAL AIR CONDITIONING 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 Air Conditioning Program set forth in this petition and attachments, (2) allow FPL to recover reasonable and prudent expenditures for the modified Residential Air Conditioning Program, and (3) include FPL's modified Residential Air Conditioning 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

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 Air Conditioning 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 Air Conditioning Program is to reduce FPL's summer and winter coincident peak demand and energy attributable to central and room heating, ventilating, and air conditioning (HVAC) equipment by encouraging residential customers, through the use of incentives, to purchase higher efficiency equipment. The Residential Air Conditioning Program, as FPL proposes to modify it, is more fully described in Appendix A attached to this petition.

4. The Residential Air Conditioning 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 Air Conditioning Program will reduce an average participant's summer and winter peak demand and energy consumption by .386 kW Summer demand, .039 kW Winter demand, and 744 annual kWh, respectively.

5. The Residential Air Conditioning 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 Air Conditioning Program to make it cost-effective under current planning assumptions. To make the Residential Air

Conditioning Program cost-effective, FPL has (a) included among the eligible measures in the program ground source heat pumps, (b) excluded room air conditioners for commercial and industrial customers, and (c) restructured the incentives to be paid for eligible measures. Each of these modifications has the effect of helping the Residential Air Conditioning Program to achieve a benefit/cost ratio greater than 1.0 under the RIM and Participants tests.

6. The Residential Air Conditioning Program, as modified, is directly monitorable and will yield measurable results. FPL's monitoring plan is described in Section VI of Appendix A.

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

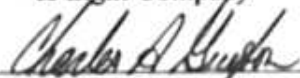
8. FPL respectfully requests that this petition be processed with the Commission's Proposed Agency Action procedure, which is recognized in Section 120.80(13)(b), Florida Statutes.

WHEREFORE, FPL respectfully petitions the Commission to (1) approve the Residential Air Conditioning Program, as modified, (2) allow FPL to recover reasonable and prudent expenditures for the Residential Air Conditioning Program, as modified, through FPL's ECCR clause, and (3) approve the Residential Air Conditioning 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 Air Conditioning 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 Air Conditioning 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 AIR CONDITIONING PROGRAM

#### **I. Program Description**

The Residential Air Conditioning Program is designed to reduce the summer and winter coincident peak demand and energy attributable to central and room heating, ventilating, and air conditioning (HVAC) equipment by encouraging customers, through the use of incentives, to purchase higher efficiency equipment.

FPL plans to make residential customers aware of this program through contractors, retail outlets and other trade allies, appropriate advertising and promotion activities, as well as 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 and by including window / wall units in the program. 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 Air Conditioning Program includes high efficiency, straight cool, air and water source heat pumps and room air conditioners. Residential, commercial and industrial customers are able to participate when they install qualifying room air conditioners. Based on an

analysis of HVAC technologies the following changes are being made to the program:

- 1) the inclusion of ground source heat pumps,
- 2) the exclusion of room air conditioners for commercial and industrial customers due to them not being cost-effective, and
- 3) the program incentive structure will change to a range not to exceed \$182 to \$303 per kw of summer demand reduction, depending on the technology.

### **III. Description of Program Administration**

To be eligible for incentives for central air conditioning systems, the customer must make an installation at a residence which has had a Certificate of Occupancy or equivalent for at least one year. All residential customers may receive an incentive for installing a qualifying room air conditioner.

The primary method of encouraging prospective customers to participate in the program will be the payment of incentives. The amount of the incentives will vary depending on several factors: the size of the unit being installed, the Seasonal Energy Efficiency Ratio (SEER) or Energy Efficiency Ratio (EER) for central units, and the EER for room units. Incentive tables will be included in FPL's Program Standards and will be based on a range not to exceed \$182 to \$303 per kw of summer demand reduction, depending on the technology, which is based on cost effectiveness analyses included in Appendix B. Eligible units can be either a straight cool or a heat pump. Central air conditioning units must have a single speed compressor.

The incentives for central air conditioning systems will be issued to the customer at the time the customer purchases a qualifying HVAC unit(s) from a qualifying contractor. The contractor fills out the incentive certificate and gives it to the customer for his/her signature. The customer signs and gives the incentive certificate back to the contractor as partial payment for the installation. The contractor then forwards the certificate to FPL for payment.

Residential customers who purchase a qualifying room air conditioner will complete an incentive certificate, obtained at the point of sale, and forward it to FPL along with the proof of purchase. The incentive payment will be made directly to the customer.

FPL will perform random post installation inspection on a selected sample of participants prior to payment of incentives. All incentive requests will be tracked by a computer system, which will record a history of incentive payments made to customers.

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



#### **IV. Projected Participation and Savings**

The projected demand and energy savings for a typical installation are .386 kw (summer) and .039 kw (winter), 744 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 Air Conditioning Program: 2.03 Participants, 1.02 RIM, 1.33 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 HVAC

I. PROGRAM DEMAND SAVINGS & LINE LOSSES

- (1) CUSTOMER KW REDUCTION AT METER \_\_\_\_\_
- (2) GENERATOR KW REDUCTION PER CUSTOMER \_\_\_\_\_
- (3) KW LINE LOSS PERCENTAGE \_\_\_\_\_
- (4) GENERATOR KW REDUCTION PER CUSTOMER \_\_\_\_\_
- (5) KW LINE LOSS PERCENTAGE \_\_\_\_\_
- (6) GROUP LINE LOSS MULTIPLIER \_\_\_\_\_
- (7) CUSTOMER KW INCREASE AT METER \_\_\_\_\_

0.33 MW  
0.43 MW  
8.32 %  
76.9 MW  
6.75 %  
1.0000  
0.0 MW

II. ECONOMIC LIFE & K FACTORS

- (1) STUDY PERIOD FOR THE CONSERVATION PROGRAM \_\_\_\_\_
- (2) GENERATOR ECONOMIC LIFE \_\_\_\_\_
- (3) TED ECONOMIC LIFE \_\_\_\_\_
- (4) K FACTOR FOR GENERATION \_\_\_\_\_
- (5) K FACTOR FOR T & D \_\_\_\_\_

25 YEARS  
30 YEARS  
35 YEARS  
1.61229  
1.44767

III. UTILITY & CUSTOMER COSTS

- (1) UTILITY NON RECURRING COST PER CUSTOMER \_\_\_\_\_
- (2) UTILITY RECURRING COST PER CUSTOMER \_\_\_\_\_
- (3) UTILITY COST ESCALATION RATE \_\_\_\_\_
- (4) CUSTOMER EQUIPMENT COST \_\_\_\_\_
- (5) CUSTOMER EQUIPMENT ESCALATION RATE \_\_\_\_\_
- (6) CUSTOMER O & M COST \_\_\_\_\_
- (7) CUSTOMER O & M COST ESCALATION RATE \_\_\_\_\_
- (8) INCREASING SUPPLY COSTS \_\_\_\_\_
- (9) SUPPLY COSTS ESCALATION RATES \_\_\_\_\_
- (10) UTILITY DISCOUNT RATE \_\_\_\_\_
- (11) UTILITY AFDISC RATE \_\_\_\_\_
- (12) UTILITY NON RECURRING REBATE/PERCENTIVE \_\_\_\_\_
- (13) UTILITY RECURRING REBATE/PERCENTIVE \_\_\_\_\_
- (14) UTILITY REBATE/PERCENTIVE ESCALATION RATE \_\_\_\_\_

--- \$/CUST  
--- \$/CUST  
--- %  
--- \$/CUST  
--- \$/CUST  
--- \$/CUST  
--- \$/CUST  
--- \$/CUST  
--- \$/CUST  
9.22 %  
10.70 %  
--- \$/CUST  
--- %

IV. AVOIDED GENERATOR AND T&D COSTS

- (1) BASE YEAR \_\_\_\_\_
- (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT \_\_\_\_\_
- (3) IN-SERVICE YEAR FOR AVOIDED T&D \_\_\_\_\_
- (4) BASE YEAR AVOIDED GENERATING COST \_\_\_\_\_
- (5) BASE YEAR AVOIDED TRANSMISSION COST \_\_\_\_\_
- (6) BASE YEAR DISTRIBUTION COST \_\_\_\_\_
- (7) GEN. TRAN & DIST COST ESCALATION RATE \_\_\_\_\_
- (8) GENERATOR FIXED O & M COST \_\_\_\_\_
- (9) GENERATOR FIXED O&M ESCALATION RATE \_\_\_\_\_
- (10) TRANSMISSION FIXED O & M COST \_\_\_\_\_
- (11) DISTRIBUTION FIXED O & M COST \_\_\_\_\_
- (12) T&D FIXED O&M ESCALATION RATE \_\_\_\_\_
- (13) AVOIDED GEN UNIT VARIABLE O & M COSTS \_\_\_\_\_
- (14) GENERATOR VARIABLE O&M COST ESCALATION RATE \_\_\_\_\_
- (15) GENERATOR CAPACITY FACTOR \_\_\_\_\_
- (16) AVOIDED GENERATING UNIT FUEL COST \_\_\_\_\_
- (17) AVOIDED GEN UNIT FUEL COST ESCALATION RATE \_\_\_\_\_

1998  
2001  
1998-2001  
285 \$/KW  
70 \$/KW  
50 \$/KW  
2.55 %  
8 \$/KWYR  
3.34 %  
2.73 \$/KW  
13.01 \$/KW  
1.34 %  
0.020 CENTS/MWH  
2.47 %  
30% (in-service year)  
1.88 CENTS PER KWHR (in-service year)  
5.03 %

V. NON-FUEL ENERGY AND DEMAND CHARGES

- (1) NON FUEL COST IN CUSTOMER BILL \_\_\_\_\_
- (2) NON-FUEL COST ESCALATION RATE \_\_\_\_\_
- (3) DEMAND CHARGE IN CUSTOMER BILL \_\_\_\_\_
- (4) DEMAND CHARGE ESCALATION RATE \_\_\_\_\_

--- CENTS/MWH  
--- %  
--- \$/MWH  
--- %

• 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 HVAC

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) EQUIPMENT COSTS \$ (000)	(8) PARTICIPANT O&M COSTS \$ (000)	(9) OTHER PARTICIPANT COSTS \$ (000)	(10) TOTAL PARTICIPANT COSTS \$ (000)
1986	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0
1988	2,032	6,361	0	8,393	1,865	0	24,600	0	0	24,600
1989	1,864	8,079	0	9,943	5,640	0	24,073	0	0	24,073
2000	1,965	5,815	0	7,780	9,106	0	23,599	0	0	23,599
2001	0	0	0	0	10,810	0	0	0	0	0
2002	0	0	0	0	10,829	0	0	0	0	0
2003	0	0	0	0	10,922	0	0	0	0	0
2004	0	0	0	0	11,093	0	0	0	0	0
2005	0	0	0	0	11,079	0	0	0	0	0
2006	0	0	0	0	11,412	0	0	0	0	0
2007	0	0	0	0	11,616	0	0	0	0	0
2008	525	597	0	1,121	11,922	0	4,063	0	0	4,063
2009	532	569	0	1,121	12,214	0	4,113	0	0	4,113
2010	557	600	0	1,157	13,203	0	4,306	0	0	4,306
2011	0	0	0	0	13,344	0	0	0	0	0
2012	0	0	0	0	13,620	0	0	0	0	0
2013	2,440	5,794	0	8,204	13,800	0	32,187	0	0	32,187
2014	2,383	5,490	0	7,883	14,266	0	31,570	0	0	31,570
2015	2,341	5,215	0	7,557	14,248	0	30,891	0	0	30,891
2016	0	0	0	0	14,403	0	0	0	0	0
2017	0	0	0	0	14,790	0	0	0	0	0
2018	689	587	0	1,296	14,952	0	5,403	0	0	5,403
2019	709	589	0	1,298	15,214	0	5,477	0	0	5,477
2020	741	600	0	1,340	15,482	0	5,725	0	0	5,725
NOM	18,927	38,294	0	58,221	279,791	0	188,987	0	0	188,987
NPV	6,851	18,269	0	25,149	89,295	0	81,233	0	0	81,233

\* 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 HVAC

YEAR	(2) MID-YEAR RATE BASE (\$000)	(3) DEBT (\$000)	(4) PREFERRED STOCK (\$000)	(5) COMMON EQUITY (\$000)	(6) INCOME TAXES (\$000)	(7) OTHER TAXES & INSURANCE (\$000)	(8) DEPRECIATION (\$000)	(9) DEFERRED TAXES (\$000)	(10) TOTAL FIXED CHARGES (\$000)	(11) PRESENT WORTH (\$000)	(12) CUMULATIVE PW FIXED CHARGES (\$000)
2001	20,743	1,089	0	1,978	1,215	404	981	58	5,715	5,715	5,715
2002	27,523	1,053	0	1,892	794	404	981	428	5,523	5,068	10,781
2003	26,163	1,001	0	1,799	794	404	981	379	5,328	4,486	15,267
2004	24,800	951	0	1,708	782	404	981	325	5,130	3,937	19,194
2005	23,389	902	0	1,622	778	404	981	274	4,941	3,472	22,666
2006	22,379	858	0	1,538	773	404	981	227	4,759	3,081	25,717
2007	21,211	811	0	1,458	766	404	981	184	4,584	2,700	28,417
2008	20,088	768	0	1,381	757	404	981	144	4,415	2,381	30,798
2009	18,985	726	0	1,305	746	404	981	107	4,250	2,088	32,886
2010	17,898	684	0	1,230	689	404	981	73	4,085	1,848	34,742
2011	16,788	642	0	1,154	621	404	981	41	3,920	1,622	36,364
2012	15,690	600	0	1,079	574	404	981	13	3,755	1,423	37,786
2013	14,591	558	0	1,003	528	404	981	13	3,590	1,245	39,031
2014	13,493	516	0	928	479	404	981	13	3,425	1,088	40,119
2015	12,395	474	0	852	432	404	981	13	3,260	948	41,087
2016	11,296	432	0	777	384	404	981	13	3,095	824	41,891
2017	10,198	390	0	701	337	404	981	13	2,930	714	42,605
2018	9,100	348	0	626	289	404	981	13	2,765	617	43,222
2019	8,001	306	0	550	242	404	981	13	2,600	531	43,753
2020	6,903	264	0	475	195	404	981	13	2,435	455	44,208
2021	5,807	222	0	407	148	404	981	(107)	2,289	392	44,600
2022	4,714	189	0	357	108	404	981	(300)	2,178	342	44,942
2023	3,622	152	0	315	62	404	981	(500)	2,087	300	45,241
2024	2,532	129	0	273	20	404	981	(700)	1,995	262	45,504
2025	1,441	105	0	231	(20)	404	981	(900)	1,902	229	45,723
2026	3,261	82	0	189	(502)	404	981	(1,100)	1,811	200	45,932
2027	2,138	58	0	147	(708)	404	981	(1,300)	1,720	173	46,106
2028	1,527	35	0	105	(800)	404	981	(1,500)	1,628	150	46,256
2029	916	21	0	63	(823)	404	981	(1,700)	1,538	130	46,388
2030	505	12	0	21	(807)	404	981	(1,900)	1,444	112	46,497

K FACTOR = CPMFC / IN-SVC COST = 1.81229

CAPITAL STRUCTURE		
SOURCE	WEIGHT	COST
ST	45%	8.50%
PV	0%	0.00%
CS	55%	12.50%

IN SERVICE COST (\$000) 28,839  
 IN SERVICE YEAR 2001  
 BOOK LIFE (YRS) 30  
 EFFEC. TAX RATE 38.57%  
 DISCOUNT RATE 8.27%  
 OTAX & INS RATE 1.40%

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAM METHOD SELECTED: REV\_REQ  
PROGRAM NAME: Residential HVAC

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
YEAR	TAX DEPRECIATION SCHEDULE	TAX DEPRECIATION	ACCUMULATED TAX DEPRECIATION	BOOK DEPR	ACCUMULATED DEPRECIATION	BOOK FOR DEPR	ACCUMULATED DEPR FOR TAX	DEFERRED TAX DUE TO DEPRECIATION	TOTAL EQUITY AFUDC	BOOK DEPR RATE MINUS 1.1%	(10/11) TAX RATE	SALVAGE TAX RATE	ANNUAL DEFERRED TAX (9)-(12)-(13)	ACCUMULATED DEFERRED TAX
	(\$/000)	(\$/000)	(\$/000)	(\$/000)	(\$/000)	(\$/000)	(\$/000)	(\$/000)	(\$/000)	MINUS 1.1%	(\$/000)	(\$/000)	(\$/000)	(\$/000)
2001	3.75%	1,062	1,062	961	961	908	908	58	1,601	0	0	0	58	58
2002	7.27%	2,044	3,106	961	1,923	908	1,816	438	1,601	0	0	0	438	94
2003	6.68%	1,890	4,996	961	2,884	908	2,724	378	1,601	0	0	0	378	463
2004	6.16%	1,750	6,745	961	3,945	908	3,832	325	1,601	0	0	0	325	787
2005	5.71%	1,617	8,363	961	4,807	908	4,540	274	1,601	0	0	0	274	1,061
2006	5.29%	1,496	9,859	961	5,769	908	5,448	227	1,601	0	0	0	227	1,288
2007	4.89%	1,384	11,243	961	6,729	908	6,206	184	1,601	0	0	0	184	1,467
2008	4.52%	1,280	12,523	961	7,691	908	7,204	144	1,601	0	0	0	144	1,611
2009	4.20%	1,263	13,786	961	8,652	908	8,172	137	1,601	0	0	0	137	1,748
2010	4.46%	1,263	15,049	961	9,613	908	9,090	137	1,601	0	0	0	137	1,886
2011	4.46%	1,263	16,313	961	10,574	908	9,998	137	1,601	0	0	0	137	2,026
2012	4.46%	1,263	17,576	961	11,536	908	10,895	137	1,601	0	0	0	137	2,163
2013	4.46%	1,263	18,839	961	12,497	908	11,803	137	1,601	0	0	0	137	2,300
2014	4.46%	1,263	20,102	961	13,458	908	12,711	137	1,601	0	0	0	137	2,437
2015	4.46%	1,263	21,365	961	14,420	908	13,619	137	1,601	0	0	0	137	2,574
2016	4.46%	1,263	22,628	961	15,381	908	14,527	137	1,601	0	0	0	137	2,711
2017	4.46%	1,263	23,891	961	16,342	908	15,435	137	1,601	0	0	0	137	2,848
2018	4.46%	1,263	25,154	961	17,304	908	16,343	137	1,601	0	0	0	137	2,985
2019	4.46%	1,263	26,417	961	18,265	908	17,251	137	1,601	0	0	0	137	3,122
2020	4.46%	1,263	27,680	961	19,226	908	18,159	137	1,601	0	0	0	137	3,259
2021	2.23%	632	28,312	961	20,188	908	19,067	137	1,601	0	0	0	137	3,396
2022	0.00%	0	28,312	961	21,149	908	19,975	(107)	1,601	0	0	0	(107)	3,153
2023	0.00%	0	28,312	961	22,110	908	20,883	(260)	1,601	0	0	0	(260)	2,802
2024	0.00%	0	28,312	961	23,072	908	21,791	(260)	1,601	0	0	0	(260)	2,452
2025	0.00%	0	28,312	961	24,033	908	22,699	(260)	1,601	0	0	0	(260)	2,102
2026	0.00%	0	28,312	961	24,994	908	23,607	(260)	1,601	0	0	0	(260)	1,752
2027	0.00%	0	28,312	961	25,956	908	24,515	(260)	1,601	0	0	0	(260)	1,402
2028	0.00%	0	28,312	961	26,917	908	25,423	(260)	1,601	0	0	0	(260)	1,051
2029	0.00%	0	28,312	961	27,878	908	26,331	(260)	1,601	0	0	0	(260)	701
2030	0.00%	0	28,312	961	28,839	908	27,239	(260)	1,601	0	0	0	(260)	351

SALVAGE / REMOVAL COST	0.00
YEAR SALVAGE / COST OF REMOVAL	2020
DEFERRED TAXES DURING CONSTRUCTION (SEE PAGE 5)	(414)
TOTAL EQUITY AFUDC CAPITALIZED (SEE PAGE 5)	1.6
BOOK DEPR RATE - MAJESTAS LIFE	3.33%

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAM METHOD SELECTED REV\_NEG  
PROGRAM NAME: Rasmussen HVAC

(1)	(2)	(3)	(4)	(5)	(5a)*	(5b)*	(6)	(7)	(8)
YEAR	TAX DEPRECIATION SCHEDULE	TAX DEPRECIATION	DEFERRED TAX	END OF YEAR NET PLANT IN SERVICE	ACCUMULATED DEPRECIATION	ACCUMULATED DEF TAXES	BEGINNING YEAR RATE BASE	ENDING OF YEAR RATE BASE	MID-YEAR RATE BASE
		(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
2001	3.75%	1,082	58	27,878	81	(264)	28,223	28,743	28,743
2002	7.27%	2,044	438	26,917	1,823	84	28,223	28,823	27,533
2003	6.68%	1,890	379	25,858	2,884	463	28,823	25,493	26,193
2004	6.19%	1,750	325	24,884	3,845	787	25,493	24,207	24,850
2005	5.71%	1,617	274	24,023	4,807	1,081	24,207	22,972	23,589
2006	5.29%	1,486	227	23,072	5,768	1,398	22,972	21,764	22,378
2007	4.89%	1,364	184	22,110	6,729	1,472	21,764	20,639	21,211
2008	4.52%	1,260	144	21,148	7,691	1,615	20,639	19,534	20,086
2009	4.46%	1,263	137	20,188	8,652	1,732	19,534	18,435	18,965
2010	4.46%	1,263	137	19,228	9,613	1,869	18,435	17,337	17,896
2011	4.46%	1,263	137	18,268	10,574	2,026	17,337	16,239	16,788
2012	4.46%	1,263	137	17,304	11,536	2,183	16,239	15,141	15,690
2013	4.46%	1,263	137	16,342	12,497	2,300	15,141	14,042	14,591
2014	4.46%	1,263	137	15,381	13,458	2,437	14,042	12,944	13,493
2015	4.46%	1,263	137	14,420	14,420	2,574	12,944	11,846	12,395
2016	4.46%	1,263	137	13,458	15,381	2,711	11,846	10,747	11,296
2017	4.46%	1,263	137	12,497	16,342	2,848	10,747	9,649	10,198
2018	4.46%	1,263	137	11,536	17,304	2,985	9,649	8,551	9,100
2019	4.46%	1,263	137	10,574	18,265	3,122	8,551	7,452	8,001
2020	4.46%	1,263	137	9,613	19,228	3,259	7,452	6,354	6,903
2021	2.23%	832	(107)	8,652	20,188	3,153	6,354	5,499	5,927
2022	0.00%	0	(350)	7,691	21,149	2,832	5,499	4,889	5,194
2023	0.1%	0	(350)	6,729	22,110	2,432	4,889	4,277	4,583
2024	0.06%	0	(350)	5,768	23,072	2,102	4,277	3,666	3,972
2025	0.00%	0	(350)	4,807	24,033	1,752	3,666	3,055	3,261
2026	0.00%	0	(350)	3,845	24,994	1,421	3,055	2,444	2,749
2027	0.00%	0	(350)	2,884	25,956	1,051	2,444	1,833	2,138
2028	0.00%	0	(350)	1,923	26,917	791	1,833	1,222	1,527
2029	0.00%	0	(350)	961	27,878	351	1,222	611	916
2030	0.00%	0	(350)	0	28,839	0	611	0	305

\* 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 AVERAGE SPENDING (\$/KW)	(7) CUMULATIVE AVERAGE SPENDING (\$/KW)
1996	-5	0.00%	1.000	0.00%	0.00	0.00
1997	-4	2.50%	1.026	0.00%	0.00	0.00
1998	-3	2.50%	1.052	0.00%	0.00	0.00
1999	-2	2.67%	1.080	26.77%	113.15	14.57
2000	-1	2.88%	1.111	63.22%	200.20	213.25

100.00% 313.34

(8) YEAR	(9) NO YEARS BEFORE IN-SERVICE	(10) CUMULATIVE SPENDING WITH AFUDC (\$/KW)	(11) CUMULATIVE DEBT AFUDC (\$/KW)	(12) CUMULATIVE DEBT AFUDC (%)	(13) YEARLY TOTAL AFUDC (\$/KW)	(14) CUMULATIVE TOTAL AFUDC (\$/KW)	(15) CONSTRUCTION PERIOD INTEREST (\$/KW)	(16) CUMULATIVE CPI (\$/KW)	(17) DEFERRED TAXES (\$/KW)	(18) CUMULATIVE DEFERRED TAXES (\$/KW)	(19) INCREMENTAL YEAR-END BOOK VALUE (\$/KW)	(20) CUMULATIVE YEAR-END BOOK VALUE (\$/KW)
1996	-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	-2	56.57	2.16	2.16	6.05	6.05	4.81	4.81	(1.02)	(1.02)	119.20	119.20
2000	-1	219.30	8.43	10.59	23.57	29.63	18.53	23.34	(3.90)	(4.92)	223.77	342.97

10.59 28.63 23.34 (4.92) 342.97

	BOOK BASIS	BOOK BASIS FOR DEF TAX	TAX BASIS
CONSTRUCTION CASH	26,348	26,348	26,348
EQUITY AFUDC	1,601		
DEBT AFUDC	891	891	
CPI			1.962
TOTAL	28,840	27,239	28,310

IN SERVICE YEAR 2001  
PLANT COSTS 265  
AFUDC RATE 10.70%

\* Column not specified in workbook



INPUT DATA - PART 2  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Residential HVAC

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
YEAR	CUMULATIVE TOTAL PARTICIPATING CUSTOMERS	ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS	UTILITY AVERAGE SYSTEM FUEL COST (CASH)	AVOIDED MARGINAL FUEL COST (CASH)	INCREASED MARGINAL FUEL COST (CASH)	REPLACEMENT FUEL COST (CASH)	PROGRAM W/ EFFECTIVENESS FACTOR	PROGRAM W/ EFFECTIVENESS FACTOR
1996	0	0	0.00	2.63	2.40	0.00	1.00	1.00
1997	0	0	0.00	2.84	2.43	0.00	1.00	1.00
1998	68,160	68,160	0.00	2.83	2.53	0.00	1.00	1.00
1999	133,749	133,749	0.00	2.95	2.57	0.00	1.00	1.00
2000	187,348	187,348	0.00	3.20	2.69	0.00	1.00	1.00
2001	187,348	187,348	0.00	3.62	2.90	2.26	1.00	1.00
2002	187,348	187,348	0.00	3.50	- 97	2.50	1.00	1.00
2003	187,348	187,348	0.00	3.49	2.87	2.48	1.00	1.00
2004	187,348	187,348	0.00	3.79	3.08	2.96	1.00	1.00
2005	187,348	187,348	0.00	3.93	3.20	3.22	1.00	1.00
2006	187,348	187,348	0.00	4.17	3.29	3.45	1.00	1.00
2007	187,348	187,348	0.00	4.43	3.61	3.76	1.00	1.00
2008	187,348	187,348	0.00	4.58	3.67	3.87	1.00	1.00
2009	187,348	187,348	0.00	4.84	3.95	3.93	1.00	1.00
2010	187,348	187,348	0.00	5.17	4.04	4.39	1.00	1.00
2011	187,348	187,348	0.00	5.45	4.40	4.76	1.00	1.00
2012	187,348	187,348	0.00	5.74	4.80	4.74	1.00	1.00
2013	187,348	187,348	0.00	5.93	4.89	5.02	1.00	1.00
2014	187,348	187,348	0.00	6.15	4.94	5.08	1.00	1.00
2015	187,348	187,348	0.00	6.62	5.27	5.67	1.00	1.00
2016	187,348	187,348	0.00	6.88	5.39	5.80	1.00	1.00
2017	187,348	187,348	0.00	7.07	5.52	5.95	1.00	1.00
2018	187,348	187,348	0.00	7.43	5.77	6.33	1.00	1.00
2019	187,348	187,348	0.00	7.68	5.92	6.44	1.00	1.00
2020	187,348	187,348	0.00	7.87	6.09	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 HVAC

page 7

YEAR	(2) AVOIDED CAPACITY COST GEN UNIT \$(000)	(3) AVOIDED FIXED O&M GEN UNIT \$(000)	(4) AVOIDED VARIABLE O&M GEN UNIT \$(000)	(5) AVOIDED FUEL COST GEN UNIT \$(000)	(6) REPLACEMENT FUEL COST \$(000)	(7) AVOIDED GEN UNIT BENEFITS \$(000)
1998	0	0	0	0	0	0
1997	0	0	0	0	0	0
1996	0	0	0	0	0	0
1995	0	0	0	0	0	0
1994	0	0	0	0	0	0
2000	0	0	0	0	0	0
2001	5,715	808	74	4,145	4,967	5,772
2002	5,333	839	57	3,262	4,123	5,568
2003	5,328	874	43	2,732	3,033	5,944
2004	5,130	811	48	3,028	3,733	5,363
2005	4,941	948	49	3,569	4,210	5,298
2006	4,758	890	53	4,360	4,778	5,385
2007	4,584	1,034	55	4,894	5,231	5,326
2008	4,415	1,078	57	5,139	5,088	5,391
2009	4,250	1,125	49	4,342	4,812	5,154
2010	4,088	1,173	30	2,487	3,062	4,723
2011	3,929	1,225	31	2,810	3,279	4,507
2012	3,765	1,280	56	4,820	5,803	4,208
2013	3,592	1,337	54	4,852	5,789	4,144
2014	3,425	1,387	52	4,843	5,442	4,075
2015	3,260	1,481	57	5,669	6,491	3,898
2016	3,095	1,527	49	4,847	5,510	3,808
2017	2,930	1,594	40	3,736	4,527	3,773
2018	2,765	1,681	46	4,545	5,362	3,655
2019	2,600	1,731	46	4,933	5,283	3,597
2020	2,435	1,803	44	4,230	5,025	3,488

HOM	80,515	24,795	891	82,401	88,357	83,940
NPV	28,438	6,925	325	24,848	28,712	31,622

AVOIDED T&D AND PROGRAM FUEL SAVINGS  
PROGRAM/METHOD SELECTED REV\_REQ  
PROGRAM NAME Residential HVAC

(1) YEAR	(2) AVOIDED TRANSMISSION CAP COST \$(000)	(3) AVOIDED TRANSMISSION O&M COST \$(000)	(4) TOTAL AVOIDED TRANSMISSION CAP COST \$(000)	(5) AVOIDED TRANSMISSION O&M COST \$(000)	(6) AVOIDED DISTRIBUTION O&M COST \$(000)	(7) TOTAL AVOIDED DISTRIBUTION CAP COST \$(000)	(8) PROGRAM FUEL SAVINGS \$(000)	(9a) PROGRAM OFF-PEAK PAYBACK \$(000)
1996	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0
1999	378	88	465	247	383	630	845	0
2000	733	179	912	482	781	1,291	2,539	0
2001	1,088	275	1,341	698	1,200	1,896	4,279	0
2002	1,027	295	1,313	673	1,249	1,896	6,579	0
2003	967	298	1,265	647	1,201	1,848	8,389	0
2004	950	310	1,260	622	1,356	1,978	8,302	0
2005	913	324	1,237	598	1,414	2,012	8,973	0
2006	879	337	1,216	575	1,474	2,050	7,687	0
2007	845	352	1,197	553	1,539	2,082	8,186	0
2008	812	368	1,180	532	1,608	2,138	8,432	0
2009	780	383	1,163	511	1,675	2,186	8,941	0
2010	747	400	1,147	489	1,747	2,237	8,697	0
2011	715	418	1,132	468	1,824	2,292	10,005	0
2012	682	436	1,119	447	1,906	2,352	10,689	0
2013	650	456	1,105	425	1,991	2,417	11,079	0
2014	617	478	1,093	404	2,081	2,485	11,499	0
2015	585	498	1,083	383	2,176	2,559	12,368	0
2016	552	521	1,073	362	2,274	2,636	12,877	0
2017	520	543	1,063	340	2,373	2,713	13,308	0
2018	487	568	1,053	319	2,473	2,792	13,869	0
2019	456	590	1,048	298	2,577	2,875	14,528	0
2020	425	615	1,043	281	2,685	2,965	14,848	0

NOMA	15,809	6,717	24,526	10,352	36,088	48,438	210,188	0
MPV	6,034	2,553	8,587	3,952	11,155	15,105	81,625	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 HVAC

(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 CEILING 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)
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	2,032	24,650	0	24,652	0	0	845	0	845	25,797	(1,815)
2001	0	1,884	24,073	0	24,067	0	1,095	2,659	0	3,754	(2,312)	(38,739)
2002	0	1,885	23,589	0	25,564	0	2,173	4,838	0	7,013	(18,551)	(51,778)
2003	0	0	0	0	0	5,773	3,238	6,679	0	15,690	15,690	(41,879)
2004	0	0	0	0	0	5,568	3,234	6,389	0	15,191	15,191	(26,732)
2005	0	0	0	0	0	5,844	3,233	6,362	0	15,559	15,559	(14,343)
2006	0	0	0	0	0	5,363	3,238	6,973	0	15,574	15,574	(18,855)
2007	0	0	0	0	0	5,385	3,249	7,228	0	15,778	15,778	(8,525)
2008	0	0	0	0	0	5,336	3,286	7,687	0	16,328	16,328	(2,764)
2009	0	525	4,053	0	4,578	5,591	3,290	8,166	0	16,792	16,792	3,588
2010	0	532	4,113	0	4,645	5,154	3,348	8,432	0	17,340	12,702	8,025
2011	0	557	4,308	0	4,864	4,723	3,384	8,897	0	17,644	12,799	12,089
2012	0	0	0	0	0	4,507	3,424	10,095	0	17,824	12,940	15,858
2013	0	2,440	32,187	0	34,627	4,208	3,471	10,668	0	18,347	18,347	25,121
2014	0	2,393	31,570	0	33,963	4,144	3,522	11,079	0	18,745	18,745	21,577
2015	0	2,341	30,891	0	33,232	3,958	3,642	11,499	0	19,152	19,152	18,582
2016	0	0	0	0	0	3,808	3,708	12,300	0	19,806	13,260	16,071
2017	0	0	0	0	0	3,773	3,778	12,877	0	20,383	20,383	18,583
2018	0	689	5,403	0	6,102	3,658	3,845	13,326	0	20,855	20,855	22,832
2019	0	708	5,477	0	6,185	3,597	3,921	13,999	0	21,499	15,397	25,042
2020	0	741	5,725	0	6,466	3,488	4,009	14,328	0	22,048	15,861	27,127
2021	0	0	0	0	0	0	0	14,848	0	22,346	15,860	29,037

NOM	0	14,827	195,987	0	212,824	83,345	72,864	210,186	0	378,465	163,571	
MPV	0	6,881	81,233	0	88,114	31,822	23,884	61,625	0	117,151	28,037	

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

9.22 %  
1.33

PARTICIPANT COSTS AND BENEFITS  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Residential HVAC

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
YEAR	SAVINGS IN PARTICIPANTS BILLS \$(000)	TAX CREDITS \$(000)	UTILITY REBATES \$(000)	OTHER BENEFITS \$(000)	TOTAL BENEFITS \$(000)	CUSTOMER EQUIPMENT COSTS \$(000)	CUSTOMER OAM COSTS \$(000)	OTHER COSTS \$(000)	TOTAL COSTS \$(000)	NET BENEFITS \$(000)	CUMULATIVE DISCOUNTED NET BENEFITS \$(000)
1996	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0
1998	3,097	0	6,381	0	9,478	24,600	0	0	24,600	(15,122)	(15,122)
1999	9,212	0	6,079	0	15,291	24,073	0	0	24,073	(8,782)	(18,440)
2000	14,828	0	5,815	0	20,643	23,599	0	0	23,599	(2,956)	(21,487)
2001	17,721	0	0	0	17,721	0	0	0	0	17,721	(10,047)
2002	17,753	0	0	0	17,753	0	0	0	0	17,753	408
2003	17,904	0	0	0	17,904	0	0	0	0	17,904	10,082
2004	18,196	0	0	0	18,196	0	0	0	0	18,196	19,040
2005	18,162	0	0	0	18,162	0	0	0	0	18,162	27,248
2006	18,708	0	0	0	18,708	0	0	0	0	18,708	34,091
2007	19,043	0	0	0	19,043	0	0	0	0	19,043	42,205
2008	19,544	0	587	0	20,140	4,053	0	0	4,053	16,087	47,785
2009	20,023	0	589	0	20,612	4,113	0	0	4,113	16,498	53,024
2010	21,845	0	600	0	22,444	4,306	0	0	4,306	17,938	58,240
2011	21,876	0	0	0	21,876	0	0	0	0	21,876	64,053
2012	22,329	0	0	0	22,329	0	0	0	0	22,329	68,505
2013	22,622	0	5,764	0	28,386	32,167	0	0	32,167	(3,801)	68,657
2014	23,388	0	5,490	0	28,877	31,570	0	0	31,570	(2,692)	68,107
2015	23,359	0	5,215	0	28,574	30,891	0	0	30,891	(2,316)	67,674
2016	23,693	0	0	0	23,693	0	0	0	0	23,693	71,731
2017	24,098	0	0	0	24,098	0	0	0	0	24,098	75,509
2018	24,511	0	597	0	25,108	5,403	0	0	5,403	19,705	78,337
2019	24,946	0	599	0	25,529	5,477	0	0	5,477	20,053	80,972
2020	25,381	0	600	0	25,980	5,725	0	0	5,725	20,298	83,409

NOM	452,116	0	38,294	0	490,410	185,997	0	0	185,997	204,413
MPV	148,374	0	18,368	0	166,742	81,233	0	0	81,233	83,409

2001  
9.22 %  
3.89

In Service of Gen Unit  
Discount Rate:  
Benefit/Cost Ratio (Cn/Cl) / Cn/Cl(10)

RATE IMPACT TEST  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Residential HVAC

(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
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	2,032	0	1,865	0	10,258	845	0	0	0	845	0	(8,412)
1999	0	1,964	0	5,640	0	13,713	2,059	1,095	0	0	3,755	0	(8,908)
2000	0	1,965	0	8,108	0	16,888	4,839	2,173	0	0	7,013	0	(8,878)
2001	0	0	0	10,810	0	10,810	12,452	3,238	0	0	15,690	0	(8,880)
2002	0	0	0	10,829	0	10,829	11,957	3,234	0	0	15,191	0	(8,862)
2003	0	0	0	10,922	0	10,922	12,326	3,233	0	0	15,559	0	(8,850)
2004	0	0	0	11,083	0	11,083	12,336	3,238	0	0	15,574	0	(8,848)
2005	0	0	0	11,079	0	11,079	12,527	3,249	0	0	15,776	0	(8,837)
2006	0	0	0	11,412	0	11,412	13,072	3,266	0	0	16,338	0	(8,825)
2007	0	0	0	11,616	0	11,616	13,522	3,290	0	0	16,792	0	(8,806)
2008	0	525	0	11,822	0	13,043	14,023	3,316	0	0	17,340	0	(8,788)
2009	0	532	0	12,214	0	13,335	14,095	3,349	0	0	17,444	0	(8,769)
2010	0	557	0	13,203	0	14,360	14,420	3,384	0	0	17,804	0	(8,749)
2011	0	0	0	13,344	0	13,344	14,601	3,424	0	0	18,026	0	(8,729)
2012	0	0	0	13,520	0	13,520	14,876	3,471	0	0	18,347	0	(8,708)
2013	0	2,440	0	13,800	0	22,003	15,223	3,522	0	0	18,745	0	(8,686)
2014	0	2,383	0	14,206	0	22,149	15,574	3,578	0	0	19,152	0	(8,662)
2015	0	2,341	0	14,248	0	21,800	16,324	3,642	0	0	19,896	0	(8,637)
2016	0	0	0	14,453	0	14,453	16,685	3,708	0	0	20,393	0	(8,611)
2017	0	0	0	14,700	0	14,700	17,079	3,776	0	0	20,855	0	(8,584)
2018	0	699	0	14,952	0	16,248	17,654	3,845	0	0	21,499	0	(8,556)
2019	0	708	0	15,214	0	16,511	18,125	3,921	0	0	22,046	0	(8,527)
2020	0	741	0	15,482	0	16,823	18,336	4,009	0	0	22,346	0	(8,500)

NOM	0	16,827	38,294	275,711	0	321,012	303,531	72,064	0	0	378,495	48,483	
NPV	0	6,881	15,209	89,209	0	114,437	83,457	23,094	0	0	117,151	2,714	

Discount Rate  
Benefit/Cost Ratio (Col(12) / Col(7)) : 1.02 9.22 %