

One Energy Place
Pensacola, Florida 32520

850.444.6111



November 10, 1998

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

Dear Ms. Bayo:

981591 - EG

RE: Petition for Authority to Implement Good Cents Conversion Program

Enclosed are an original and fifteen copies of Gulf Power Company's Petition for New Program.

Also enclosed is a 3.5 inch double sided, high density diskette containing the Petition in WordPerfect for Windows 6.1 format as prepared on a Windows NT based computer.

Sincerely,

A handwritten signature in cursive script that reads "Linda G. Malone".

Linda G. Malone
Assistant Secretary and Assistant Treasurer

lw

Enclosure

cc: Beggs and Lane
Jeffrey A. Stone, Esquire
Gulf Power Company
Susan D. Ritenour

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FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

IN RE: Petition for Authority to Implement
Good Cents Conversion Program
by Gulf Power Company /

Docket No.:
Filed: November 12, 1998

PETITION FOR NEW PROGRAM

GULF POWER COMPANY (“Gulf Power”, “Gulf”, or “the Company”), by and through its undersigned attorneys, and pursuant to Section 366.82(5) of the Florida Statutes and Rule 25-17.015 of the Florida Administrative Code, hereby petitions the Florida Public Service Commission for authority to implement a new program in the Company’s energy conservation plan. In support thereof the Company would respectfully show:

1. Gulf is a corporation with its headquarters located at 500 Bayfront Parkway, Pensacola, Florida. The Company is an investor-owned utility operating under the jurisdiction of this Commission.
2. Gulf hereby requests authority from the Commission to implement a new program in the Company’s energy conservation plan, the Good Cents Conversion Program.
3. A detailed description of the Good Cents Conversion Program is provided in the attached Exhibit 1 which is incorporated herein by reference. The objective of this new program is to provide Gulf Power Company’s residential customers and equipment contractors an incentive to replace inefficient gas furnace and air conditioning systems with high efficiency heat pump systems. Benefits will include energy savings for the customer and both energy and peak demand reductions for Gulf Power and its general body of customers.

4. Monitoring and evaluation of the Good Cents Conversion Program will be through the Gulf Account Reporting System (GARS). Energy and demand savings will be validated through billing data and sample metering of customer equipment.

5. This program is cost-effective using the Commission approved methodology in Rule 25-17.008. The summary tables and cost-effectiveness runs are included in Exhibit 1 as Attachments A & B. While the assumptions used in calculating the cost effectiveness of the program as filed were the most logical and most probable, other scenarios were analyzed as a matter of interest and rigor. The results of those analyses are shown in Exhibit 2 which is incorporated herein by reference.

WHEREFORE, Gulf Power Company respectfully requests the Commission to authorize the Company to implement the Good Cents Conversion Program consistent with this petition.

Dated this 11th day of November, 1998


JEFFREY A. STONE
Florida Bar No. 325953
RUSSELL A. BADDERS
Florida Bar No. 7455
Beggs & Lane
P. O. Box 12950
(700 Blount Building)
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(850) 432-2451
Attorneys for
Gulf Power Company

GoodCents[®] Conversion Program

Program Description

The objective of the GoodCents[®] Conversion Program is to provide Gulf Power Company's residential customers and equipment contractors an incentive to replace inefficient gas furnace and air conditioning systems with high efficiency heat pump systems. This program will encourage earlier replacement of these equipment types resulting in immediate energy savings for the customer, an increase in ground source efficiency, and energy and peak demand reductions benefiting Gulf Power Company and its general body of customers.

Gulf Power will identify potential program participants through the Residential Energy Audit Program as well as through educational and promotional activities.

Program Guidelines

In order to qualify for participation in the GoodCents[®] Conversion Program, customers must have an On-site Energy Audit performed by a Gulf Power Residential Energy Consultant. Each Energy Audit will result in written recommendations to the customer, which may include lifestyle factors, improvements to the home's thermal envelope, and mechanical equipment upgrades/modifications. In addition, the Energy Consultant may provide detailed computer analysis of the customer's home in order to determine proper equipment sizing and demonstrate potential savings to the customer.

All heat pump installations must meet mechanical code requirements and have a minimum Seasonal Energy Efficiency Rating (SEER) of 11.0. Described heat pump installations replacing primary heating systems fueled by gas, propane, or fuel oil will qualify the customer for a rebate of \$200 and the installing heating and cooling contractor or salesperson an incentive of \$50 per system. Installations occurring without the necessary Gulf Power Energy Audit will not qualify for any incentive.

Qualifying installations will be reported by the Gulf Power Residential Energy Consultant to the appropriate support personnel located in Gulf Power's Corporate Office Residential Marketing Department in order to facilitate payment. A sample rebate form is included as Attachment "A".

Participation Standards

The GoodCents[®] Conversion Program is available to all residential customers within Gulf Power's service territory with an existing combustion furnace as the primary source of heating for the home and to cooling and heating equipment contractors performing work for these customers.

Benefits and Costs

Participating customers will benefit from reduced energy consumption in their homes resulting in lower energy bills. Energy calculations indicate an expected or average annual reduction of 1,030 kWh and 302 therms of natural gas. Additional benefits related to cost of maintenance and repair of customers' cooling and heating systems will be realized by early retirement of this equipment and replacement with new heat pump systems. Our environment will benefit by these customer actions because of a 39% reduction in ground source BTU consumption.

For Gulf Power Company, benefits include kWh reduction, kW demand savings, consumer education, and customer satisfaction. The kWh and kW demand savings are based on Residential Building Energy Program (RBEP) computer simulations. This analysis assumes that a customer in an average home of 1,680 square feet replaces a three ton air conditioner with a Seasonal Energy Efficiency Rating (SEER) of 7.0 and a 68% Annual Fuel Utilization Efficiency (AFUE) gas furnace with a heat pump having a SEER of 11.0 and a Heating Season Performance Factor (HSPF) of 7.4. RBEP comparisons based on these assumptions indicate that these installations will result in an annual energy reduction of 1,030 kWh and a summer demand reduction of 1.9 kW.

Monitoring and Evaluation

Gulf Power will monitor this program through its existing Gulf Account Reporting System (GARS) which will enable the tracking of homes making this equipment change. Gulf Power will validate engineering analysis of energy and demand savings with billing data and sample metering of customer equipment.

Cost Effectiveness

This program is cost effective using the Commission's approved methodology (Rule 25-17.008). The cost-effectiveness calculation is included as Attachment B.

GoodCents[®] *Conversion Program*

\$200 Customer Rebate

Customer Name

Installation Address

Gulf Power Account Number

Social Security Number

Mailing Address

City, State & Zip Code

\$50 Salesman Rebate

HVAC Dealer Name

Salesman/Rebate Payee

Social Security Number

Mailing Address

City, State & Zip Code

Equipment Installation Date

Equipment Model Number (Outdoor Unit)

Efficiency Rating (SEER)

Gulf Power Energy Consultant

Date

INPUT DATA -- PART 1

Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

I. Program Demand Impacts and Line Losses

(1) Change in Peak kW Customer at meter	-1.90	kW/Cus
(2) Change in Peak kW per Customer at generator	-2.46	kW Gen/Cu:
(3) kW Line Loss Percentage	12.60%	
(4) Change in KWh per Customer at generator	(1,109)	kWh/Cus/Yr
(5) kWh Line Loss Percentage	7.70%	
(6) Group Line Loss Multiplier	1.0014	
(7) Annual Change in Customer kWh at Meter	(1,030)	kWh/Cus/Yr
* (8) Change in Winter kW per Cust at meter	4.40	kW/Cus

II. Economic Life and K-Factors

(1) DSM Program Study Period	30	Years
(2) Economic Life of Incremental Generation	40	Years
(3) Economic Life of Incremental T&D	30	Years
(4) K-Factor for Generation	1.4493	
(5) K-Factor for T&D	1.4394	
* (6) Switch: Rev Req (0) or Val-of-Def (1)	0	

III. Utility & Customer Costs

(1) Utility Nonrecurring Cost Per Customer	\$150.00	\$/Cus
(2) Utility Recurring Cost Per Customer	\$0.00	\$/Cus/Year
(3) Utility Cost Escalation Rate	3.06%	
(4) Customer Equipment Cost	\$3,000.00	\$/Cus
(5) Customer Equipment Cost Escalation Rate	3.06%	
(6) Customer O&M Cost	(\$287.00)	\$/Cus/Year
(7) Customer O&M Cost Escalation Rate	3.06%	
* (8) Customer Tax Credit Per Installation	\$0.00	\$/Cus
* (9) Customer Tax Credit Escalation Rate	3.06%	
* (10) Change in Supply Costs	\$0.00	\$/Cus/Year
* (11) Supply Costs Escalation Rate	3.06%	
* (12) Utility Discount Rate	8.97%	
* (13) Utility AFUDC Rate	10.30%	
* (14) Utility Nonrecurring Rebate/Incentive	\$200.00	\$/Cus
* (15) Utility Recurring Rebate/Incentive	\$0.00	\$/Cus/Year
* (16) Utility Rebate/Incentive Escalation Rate	0.00%	

IV. Incremental Generation, Transmission, & Distribution Costs

(1) Base Year	1999	
(2) In-Service Year For Incremental Generation	2001	**
(3) In-Service Year For Incremental T & D	2000	
(4) Base Year Incremental Generation Cost	\$234.85	\$/kW
(5) Base Year Incremental Transmission Cost	\$58.75	\$/kW
(6) Base Year Incremental Distribution Cost	\$33.00	\$/kW
(7) Gen, Tran, & Dist Cost Escalation Rate	2.56%	
(8) Generator Fixed O & M Cost	\$2.77	\$/kW/Yr
(9) Generator Fixed O&M Escalation Rate	2.99%	
(10) Transmission Fixed O & M Cost	\$0.73	\$/kW/Yr
(11) Distribution Fixed O & M Cost	\$0.84	\$/kW/Yr
(12) T&D Fixed O&M Escalation Rate	2.56%	
(13) Incremental Gen Variable O & M Costs	\$0.433	\$/kW/Yr
(14) Incre Gen Variable O&M Cost Esc Rate	3.84%	
(15) Incremental Gen Capacity Factor	3.40%	
(16) Incremental Generating Unit Fuel Cost	\$0.0356	\$/kWh
(17) Incremental Gen Unit Fuel Esc Rate	3.00%	
* (18) Incremental Purchased Capacity Cost	\$20.70	\$/KW/YR
* (19) Incremental Capacity Cost Esc Rate	2.56%	

Stop Revenue Loss at In-Service Year? (Y=1, N=0) 0

V. (1) Non-Fuel Cost In Customer Bill (Base Year)

(1) Non-Fuel Cost In Customer Bill (Base Year)	\$0.0352	\$/kWh
(2) Non-Fuel Escalation Rate	Per Table	
(3) Customer Demand Charge Per kW (Base Year)	\$0.0000	\$/kW/Mo
(4) Demand Charge Escalation Rate	Per Table	
* (5) Average Annual Change in Monthly Billing kW	0	kW/Mo.

Summary Results for This Analysis

	RIM	Participants'
NPV Benefits(\$000s)	\$7,153	\$21,592
NPV Costs (\$000s)	\$4,114	\$13,094
NPV Net Benefits (\$000s)	\$3,039	\$8,498
Benefit:Cost Ratio	1.739	1.649

* Supplemental Information Not Specifically Specified in Cost Effectiveness Manual
 ** The relevant avoidable generation unit is a combustion turbine peaking unit.
 Since the kilowatt savings occur at the time of the system peak, this is the appropriate unit against which to measure cost savings.

Total Resource Cost-Effectiveness Measure
Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Participants' Program Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
1999	\$0	\$75	\$1,357	\$0	\$0	(\$35)	\$0	(\$11)	\$1,432	\$46	(\$1,385)	(\$1,385)
2000	\$0	\$155	\$2,648	\$0	\$0	(\$106)	(\$79)	(\$36)	\$2,803	\$221	(\$2,582)	(\$3,755)
2001	\$0	\$159	\$2,424	\$0	\$0	(\$185)	(\$126)	(\$60)	\$2,584	\$371	(\$2,212)	(\$5,618)
2002	\$0	\$164	\$2,184	\$0	\$0	(\$263)	(\$169)	(\$86)	\$2,349	\$518	(\$1,830)	(\$7,032)
2003	\$0	\$169	\$1,928	\$0	\$0	(\$348)	(\$209)	(\$112)	\$2,097	\$669	(\$1,428)	(\$8,045)
2004	\$0	\$87	\$76	\$0	\$0	(\$400)	(\$222)	(\$126)	\$163	\$748	\$585	(\$7,664)
2005	\$0	\$0	(\$1,720)	\$0	\$0	(\$413)	(\$214)	(\$129)	\$0	\$2,475	\$2,475	(\$6,186)
2006	\$0	\$0	(\$1,772)	\$0	\$0	(\$422)	(\$205)	(\$130)	\$0	\$2,530	\$2,530	(\$4,799)
2007	\$0	\$0	(\$1,827)	\$0	\$0	(\$431)	(\$197)	(\$135)	\$0	\$2,590	\$2,590	(\$3,497)
2008	\$0	\$0	(\$1,883)	\$0	\$0	(\$441)	(\$189)	(\$139)	\$0	\$2,652	\$2,652	(\$2,273)
2009	\$0	\$0	(\$1,940)	\$0	\$0	(\$454)	(\$181)	(\$141)	\$0	\$2,717	\$2,717	(\$1,122)
2010	\$0	\$0	(\$2,000)	\$0	\$0	(\$467)	(\$173)	(\$144)	\$0	\$2,783	\$2,783	(\$40)
2011	\$0	\$0	(\$2,061)	\$0	\$0	(\$480)	(\$165)	(\$149)	\$0	\$2,854	\$2,854	\$978
2012	\$0	\$0	(\$2,124)	\$0	\$0	(\$494)	(\$157)	(\$154)	\$0	\$2,928	\$2,928	\$1,936
2013	\$0	\$0	(\$2,189)	\$0	\$0	(\$507)	(\$148)	(\$156)	\$0	\$3,000	\$3,000	\$2,837
2014	\$0	\$0	(\$2,256)	\$0	\$0	(\$521)	(\$140)	(\$153)	\$0	\$3,071	\$3,071	\$3,684
2015	\$0	\$0	(\$2,325)	\$0	\$0	(\$535)	(\$133)	(\$154)	\$0	\$3,147	\$3,147	\$4,480
2016	\$0	\$0	(\$2,396)	\$0	\$0	(\$549)	(\$129)	(\$151)	\$0	\$3,225	\$3,225	\$5,228
2017	\$0	\$0	(\$2,470)	\$0	\$0	(\$564)	(\$126)	(\$150)	\$0	\$3,309	\$3,309	\$5,933
2018	\$0	\$0	(\$2,545)	\$0	\$0	(\$580)	(\$122)	(\$159)	\$0	\$3,406	\$3,406	\$6,599
2019	\$0	\$0	(\$2,623)	\$0	\$0	(\$603)	(\$119)	(\$163)	\$0	\$3,508	\$3,508	\$7,228
2020	\$0	\$0	(\$2,703)	\$0	\$0	(\$627)	(\$115)	(\$168)	\$0	\$3,614	\$3,614	\$7,823
2021	\$0	\$0	(\$2,786)	\$0	\$0	(\$652)	(\$112)	(\$174)	\$0	\$3,724	\$3,724	\$8,386
2022	\$0	\$0	(\$2,872)	\$0	\$0	(\$672)	(\$109)	(\$179)	\$0	\$3,831	\$3,831	\$8,917
2023	\$0	\$0	(\$2,959)	\$0	\$0	(\$692)	(\$106)	(\$184)	\$0	\$3,942	\$3,942	\$9,418
2024	\$0	\$0	(\$3,050)	\$0	\$0	(\$713)	(\$102)	(\$190)	\$0	\$4,056	\$4,056	\$9,892
2025	\$0	\$0	(\$3,144)	\$0	\$0	(\$735)	(\$99)	(\$196)	\$0	\$4,173	\$4,173	\$10,339
2026	\$0	\$0	(\$3,240)	\$0	\$0	(\$757)	(\$96)	(\$202)	\$0	\$4,294	\$4,294	\$10,761
2027	\$0	\$0	(\$3,339)	\$0	\$0	(\$780)	(\$93)	(\$208)	\$0	\$4,420	\$4,420	\$11,160
2028	\$0	\$0	(\$3,441)	\$0	\$0	(\$803)	(\$90)	(\$214)	\$0	\$4,549	\$4,549	\$11,536
Nominal		\$810	(\$49,047)			(\$15,228)	(\$4,124)	(\$4,355)	\$11,426	\$83,371	\$71,945	
NPV		\$655	(\$5,038)			(\$4,260)	(\$1,613)	(\$1,280)	\$9,587	\$21,124	\$11,536	
Discount Rate =		8.97%										
Benefit/Cost Ratio =		2.20										

**Participants' Cost-Effectiveness Measure
Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year	Customer Equip Costs (\$000s)	Customer O&M Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Change in Participants' Electric Bills (\$000s)	Tax Credits (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits (\$000s)	Cumulative Discounted Net Benefits (\$000s)
1999	\$1,500	(\$144)	\$0	\$0	(\$29)	\$0	\$100	\$1,500	\$272	(\$1,228)	(\$1,228)
2000	\$3,092	(\$444)	\$0	\$0	(\$85)	\$0	\$200	\$3,092	\$728	(\$2,364)	(\$3,397)
2001	\$3,187	(\$762)	\$0	\$0	(\$135)	\$0	\$200	\$3,187	\$1,097	(\$2,089)	(\$5,156)
2002	\$3,284	(\$1,100)	\$0	\$0	(\$195)	\$0	\$200	\$3,284	\$1,495	(\$1,789)	(\$6,539)
2003	\$3,385	(\$1,457)	\$0	\$0	(\$244)	\$0	\$200	\$3,385	\$1,901	(\$1,484)	(\$7,591)
2004	\$1,744	(\$1,669)	\$0	\$0	(\$278)	\$0	\$100	\$1,744	\$2,047	\$303	(\$7,394)
2005	\$0	(\$1,720)	\$0	\$0	(\$278)	\$0	\$0	\$0	\$1,998	\$1,998	(\$6,201)
2006	\$0	(\$1,772)	\$0	\$0	(\$281)	\$0	\$0	\$0	\$2,053	\$2,053	(\$5,076)
2007	\$0	(\$1,827)	\$0	\$0	(\$288)	\$0	\$0	\$0	\$2,114	\$2,114	(\$4,013)
2008	\$0	(\$1,883)	\$0	\$0	(\$287)	\$0	\$0	\$0	\$2,169	\$2,169	(\$3,011)
2009	\$0	(\$1,940)	\$0	\$0	(\$290)	\$0	\$0	\$0	\$2,230	\$2,230	(\$2,067)
2010	\$0	(\$2,000)	\$0	\$0	(\$293)	\$0	\$0	\$0	\$2,292	\$2,292	(\$1,176)
2011	\$0	(\$2,061)	\$0	\$0	(\$296)	\$0	\$0	\$0	\$2,357	\$2,357	(\$335)
2012	\$0	(\$2,124)	\$0	\$0	(\$299)	\$0	\$0	\$0	\$2,423	\$2,423	\$458
2013	\$0	(\$2,189)	\$0	\$0	(\$302)	\$0	\$0	\$0	\$2,491	\$2,491	\$1,206
2014	\$0	(\$2,256)	\$0	\$0	(\$306)	\$0	\$0	\$0	\$2,562	\$2,562	\$1,912
2015	\$0	(\$2,325)	\$0	\$0	(\$309)	\$0	\$0	\$0	\$2,634	\$2,634	\$2,579
2016	\$0	(\$2,396)	\$0	\$0	(\$313)	\$0	\$0	\$0	\$2,709	\$2,709	\$3,207
2017	\$0	(\$2,470)	\$0	\$0	(\$316)	\$0	\$0	\$0	\$2,786	\$2,786	\$3,801
2018	\$0	(\$2,545)	\$0	\$0	(\$320)	\$0	\$0	\$0	\$2,865	\$2,865	\$4,361
2019	\$0	(\$2,623)	\$0	\$0	(\$324)	\$0	\$0	\$0	\$2,947	\$2,947	\$4,890
2020	\$0	(\$2,703)	\$0	\$0	(\$328)	\$0	\$0	\$0	\$3,031	\$3,031	\$5,389
2021	\$0	(\$2,786)	\$0	\$0	(\$332)	\$0	\$0	\$0	\$3,118	\$3,118	\$5,860
2022	\$0	(\$2,872)	\$0	\$0	(\$336)	\$0	\$0	\$0	\$3,208	\$3,208	\$6,304
2023	\$0	(\$2,959)	\$0	\$0	(\$341)	\$0	\$0	\$0	\$3,300	\$3,300	\$6,724
2024	\$0	(\$3,050)	\$0	\$0	(\$346)	\$0	\$0	\$0	\$3,396	\$3,396	\$7,121
2025	\$0	(\$3,144)	\$0	\$0	(\$351)	\$0	\$0	\$0	\$3,494	\$3,494	\$7,495
2026	\$0	(\$3,240)	\$0	\$0	(\$356)	\$0	\$0	\$0	\$3,596	\$3,596	\$7,848
2027	\$0	(\$3,339)	\$0	\$0	(\$361)	\$0	\$0	\$0	\$3,700	\$3,700	\$8,182
2028	\$0	(\$3,441)	\$0	\$0	(\$367)	\$0	\$0	\$0	\$3,808	\$3,808	\$8,498
Nominal	\$16,191	(\$65,239)			(\$8,584)		\$1,000	\$16,191	\$74,822	\$58,631	
NPV	\$13,094	(\$18,132)			(\$2,646)		\$813	\$13,094	\$21,592	\$8,498	
	Discount Rate =	8.97%									
	Benefit/Cost Ratio =	1.65									

Ratepayers' Impact Cost-Effectiveness Measure
Cost-Effectiveness Analysis per Rule 25-17.008 Florida Administrative Code

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Year	Change in Electric Supply Costs (\$000s)	Utility's Program Costs (\$000s)	Utility Paid Rebates & Incentives (\$000s)	Change in Electric Revenues (\$000)	Incremental Generation Cap Costs (\$000s)	Incremental T&D Cap Costs (\$000s)	Incremental Prog Induced Fuel Costs (\$000s)	Other Costs (\$000s)	Other Benefits (\$000s)	Total Costs (\$000s)	Total Benefits (\$000s)	Total Net Benefits to All Customers (\$000s)	Cumulative Discounted Net Benefits (\$000s)
1999	\$0	\$75	\$100	(\$29)	(\$35)	\$0	(\$11)	\$0	\$0	\$204	\$46	(\$158)	(\$158)
2000	\$0	\$155	\$200	(\$85)	(\$106)	(\$79)	(\$36)	\$0	\$0	\$439	\$221	(\$218)	(\$358)
2001	\$0	\$159	\$200	(\$135)	(\$185)	(\$126)	(\$60)	\$0	\$0	\$495	\$371	(\$123)	(\$462)
2002	\$0	\$164	\$200	(\$195)	(\$263)	(\$169)	(\$86)	\$0	\$0	\$559	\$518	(\$41)	(\$493)
2003	\$0	\$169	\$200	(\$244)	(\$348)	(\$209)	(\$112)	\$0	\$0	\$613	\$669	\$56	(\$454)
2004	\$0	\$87	\$100	(\$278)	(\$400)	(\$222)	(\$126)	\$0	\$0	\$466	\$748	\$282	(\$270)
2005	\$0	\$0	\$0	(\$278)	(\$413)	(\$214)	(\$129)	\$0	\$0	\$278	\$756	\$478	\$15
2006	\$0	\$0	\$0	(\$281)	(\$422)	(\$205)	(\$130)	\$0	\$0	\$281	\$758	\$477	\$277
2007	\$0	\$0	\$0	(\$288)	(\$431)	(\$197)	(\$135)	\$0	\$0	\$288	\$763	\$476	\$516
2008	\$0	\$0	\$0	(\$287)	(\$441)	(\$189)	(\$139)	\$0	\$0	\$287	\$770	\$483	\$739
2009	\$0	\$0	\$0	(\$290)	(\$454)	(\$181)	(\$141)	\$0	\$0	\$290	\$777	\$487	\$945
2010	\$0	\$0	\$0	(\$293)	(\$467)	(\$173)	(\$144)	\$0	\$0	\$293	\$784	\$491	\$1,136
2011	\$0	\$0	\$0	(\$296)	(\$480)	(\$165)	(\$149)	\$0	\$0	\$296	\$793	\$497	\$1,313
2012	\$0	\$0	\$0	(\$299)	(\$494)	(\$157)	(\$154)	\$0	\$0	\$299	\$804	\$505	\$1,478
2013	\$0	\$0	\$0	(\$302)	(\$507)	(\$148)	(\$156)	\$0	\$0	\$302	\$812	\$509	\$1,631
2014	\$0	\$0	\$0	(\$306)	(\$521)	(\$140)	(\$153)	\$0	\$0	\$306	\$815	\$509	\$1,771
2015	\$0	\$0	\$0	(\$309)	(\$535)	(\$133)	(\$154)	\$0	\$0	\$309	\$822	\$512	\$1,901
2016	\$0	\$0	\$0	(\$313)	(\$549)	(\$129)	(\$151)	\$0	\$0	\$313	\$829	\$516	\$2,021
2017	\$0	\$0	\$0	(\$316)	(\$564)	(\$126)	(\$150)	\$0	\$0	\$316	\$840	\$523	\$2,132
2018	\$0	\$0	\$0	(\$320)	(\$580)	(\$122)	(\$159)	\$0	\$0	\$320	\$861	\$541	\$2,238
2019	\$0	\$0	\$0	(\$324)	(\$603)	(\$119)	(\$163)	\$0	\$0	\$324	\$885	\$561	\$2,339
2020	\$0	\$0	\$0	(\$328)	(\$627)	(\$115)	(\$168)	\$0	\$0	\$328	\$911	\$583	\$2,435
2021	\$0	\$0	\$0	(\$332)	(\$652)	(\$112)	(\$174)	\$0	\$0	\$332	\$937	\$606	\$2,526
2022	\$0	\$0	\$0	(\$336)	(\$672)	(\$109)	(\$179)	\$0	\$0	\$336	\$960	\$624	\$2,613
2023	\$0	\$0	\$0	(\$341)	(\$692)	(\$106)	(\$184)	\$0	\$0	\$341	\$982	\$641	\$2,694
2024	\$0	\$0	\$0	(\$346)	(\$713)	(\$102)	(\$190)	\$0	\$0	\$346	\$1,005	\$660	\$2,771
2025	\$0	\$0	\$0	(\$351)	(\$735)	(\$99)	(\$196)	\$0	\$0	\$351	\$1,030	\$679	\$2,844
2026	\$0	\$0	\$0	(\$356)	(\$757)	(\$96)	(\$202)	\$0	\$0	\$356	\$1,055	\$699	\$2,913
2027	\$0	\$0	\$0	(\$361)	(\$780)	(\$93)	(\$208)	\$0	\$0	\$361	\$1,081	\$719	\$2,978
2028	\$0	\$0	\$0	(\$367)	(\$803)	(\$90)	(\$214)	\$0	\$0	\$367	\$1,107	\$741	\$3,039
Nominal		\$810	\$1,000	(\$8,584)	(\$15,228)	(\$4,124)	(\$4,355)			\$10,393	\$23,707	\$13,314	
NPV		\$655	\$813	(\$2,646)	(\$4,260)	(\$1,613)	(\$1,280)			\$4,114	\$7,153	\$3,039	
Discount Rate =		8.97%											
Benefit/Cost Ratio =		1.74											

Cost Effectiveness Analysis Cooling and Heating Efficiency Enhancement Program

Existing System		New System		Cost Effectiveness			
<u>Heating</u>	<u>Cooling</u>	<u>Heating</u>	<u>Cooling</u>	<u>FIM</u>	<u>PART</u>	<u>TRC</u>	
68% AFUE Gas Furnace	7 SEER A/C		7.4 HSPF Heat Pump	11 SEER Heat Pump	1.74	1.65	2.20
68% AFUE Gas Furnace	7 SEER A/C	25% Free Riders	7.4 HSPF Heat Pump	11 SEER Heat Pump	1.59	1.60	2.12
68% AFUE Gas Furnace	7 SEER A/C	15 Yr. Program Life	7.4 HSPF Heat Pump	11 SEER Heat Pump	1.49	1.09	1.30
68% AFUE Gas Furnace	8 SEER A/C		7.4 HSPF Heat Pump	11 SEER Heat Pump	2.45	1.45	1.85
68% AFUE Gas Furnace	10 SEER A/C		7.4 HSPF Heat Pump	11 SEER Heat Pump	1.41	1.14	1.32
68% AFUE Gas Furnace	10 SEER A/C	15 Yr. Program Life	7.4 HSPF Heat Pump	11 SEER Heat Pump	1.19	0.80	0.75
Gas or Resistance Heat	7 SEER A/C		Gas or Resistance Heat	11 SEER A/C	1.06	0.87	0.93
Gas or Resistance Heat	8 SEER A/C		Gas or Resistance Heat	11 SEER A/C	0.95	0.60	0.60
Resistance Heat	7 SEER A/C		7.4 HSPF Heat Pump	11 SEER Heat Pump	0.75	1.46	1.07
Resistance Heat	8 SEER A/C		7.4 HSPF Heat Pump	11 SEER Heat Pump	0.66	1.26	0.82