ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 971006-EG

GULF POWER COMPANY

DIRECT TESTIMONY AND EXHIBITS OF MICHAEL J. McCARTHY

FEBRUARY 1, 1999

Gulf Power Company

Before the Florida Public Service Commission
Prepared Direct Testimony of
Michael J. McCarthy
Docket 971006-EG
February 1, 1999

Q. Will you please state your name, business address, employer and position?

A. My name is Michael J. McCarthy and my business address is One Energy Place, Pensacola, Florida, 32520. I am employed by Gulf Power Company as a Market Specialist.

Q. Please summarize your educational background and professional experience.

A. I attended the University of Georgia and graduated with a Bachelor of Arts degree in Economics in 1971. I began my professional career in the electric utility industry at Mississippi Power Company in 1982. While at Mississippi Power Company I worked in the Economic Analysis Department. My duties included the development and analysis of rate case testimony, marketing surveys, community and economic development programs, and economic life evaluations in wrongful death suits. In 1991, I transferred to Southern Company Services in Atlanta, Georgia. My primary responsibility at Southern Company Services was the preparation of the long-term energy and demand forecast for Mississippi Power Company. I also on

behalf of Southern Energy, Inc., reviewed, evaluated, and prepared independent energy forecasts for international and domestic clients. I began my present duties at Gulf Power Company in March 1998. Within Gulf Power Company's Marketing Services Department, I am principally engaged in the economic evaluation of marketing programs and services including demand-side energy programs and retail pricing options.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to summarize Gulf Power Company's cost-effectiveness evaluation of demand side measures and to provide 10-year projections of the total cost-effective winter and summer peak demand (kW) and annual energy(kWh) savings reasonably achievable through demand-side management.

Q. Have you prepared an exhibit in support of your testimony?

A. Yes, I have.

Council: We ask that Mr. McCarthy's exhibit consisting of 3 schedules be marked for identification as:
Exhibit No. _____ (MJM-1)

Q. Please summarize the process used by Gulf Power Company to test the cost-effectiveness of demand side measures.

A. The evaluation process started with the 120 demand side measures as listed by the commission staff in a workshop held on January 7, 1998. The screening of the measures took several steps. The initial review started with the cost-effectiveness analysis performed in Docket 930550-EG. The input data from that effort along with information from Gulf's most recent planning process was used to update the cost-effectiveness model. The data from the previous analysis consisted of information such as the incremental change in the customer's summer and winter demand and annual energy savings. The other major inputs were the customer incremental equipment cost, customer incremental operation and maintenance cost, and utility recurring and non-recurring costs per customer. Where new or more current information on these inputs was available they were used. In most cases, unless new or supplemental data was available, the analysis relied upon the data in the Synergic Resources Corporation's Electricity Conservation and Energy Efficiency in Florida, Appendix E-M, DSM Technology Data Base.

The demand-side measures were then subjected to the cost-effectiveness test. If a measure did not pass the Rate Impact Measure (RIM) it was eliminated from further

consideration. The next step was to look at those measures that passed RIM but failed the participant's test. RIM dollars were then used to offset the participants' cost or increase the participants' benefit. The RIM dollars were allocated to the participant until such time as the RIM measure went below 1.0. If at this juncture the participants' test was still less than 1.0, the measure was dropped from consideration.

The process followed thus far resulted in a group of measures passing both the RIM and participants' tests. For screening purposes only, all the residential measures assumed 250 initial participants plus an additional 250 per year throughout the analysis period. In the commercial and industrial sector, the participant level started at 100 and was increased by 100 per year for the initial screening process.

Another explicit assumption in the initial screening was to assume no utility program costs or rebates and incentives, either one time or recurring. This was intentionally done to maximize the potential of a demand-side measure passing the RIM and participants' test. As noted above, if a measure did pass RIM but failed the participants' test, only then were utility costs allocated in the form of rebates or incentives to increase the value of the participants' test.

Q. From the initial screening how many residential measures passed both the RIM and participants' test?

A. Eight measures for new and existing residential customers passed both RIM and the participants' test. The measures which passed were: RSC-2, Ground Source Heat Pump; RSC-10B, Ceiling Insulation (R10 - R19); RSC-24A, High Efficiency Room AC; RSC-26A, Direct Load Control AC; RSC-26B, Direct Load Control AC; RF-1, Best Current Refrigerator (Frost-Free); RF-2, Best Current Refrigerator (Manual Defrost); and FR-1, Best Current Freezer (Frost-Free).

Q. What was next step in developing the portfolio of residential measures?

A. At this point, the measures were again reviewed for more current or relevant market data by residential marketing at Gulf Power Company. The measures then were evaluated against current building codes, existing marketing programs and efforts, and competing or complementary measures. During this evaluation period, the initial assumption on program participation was modified to reflect an estimate or projection of achievable participation less free riders.

Q. Can you please describe the results of the final screening process?

A. Yes, as a result of the final screening, two measures were dropped and a substitute measure was added and evaluated for two other measures.

The two measures dropped were the ceiling insulation and best freezer measures. The ceiling measure was dropped due to the very low market available for ceiling insulation upgrade. According to Gulf Power Company's 1994 on-site marketing survey, less than four (4) percent of the residential existing market has less than an R-10 ceiling insulation value. Gulf Power, in the normal course of performing residential energy audits, already recommends this demand-side measure.

The best freezer measure was dropped due to the lack of higher efficiency alternatives. Federal energy appliance efficiency standards do not apply to freezers with more than 30 cubic feet of space. The current choice in the freezer market is not in efficiency but in style (upright versus chest), size and/or color. Based on the professional judgement of residential marketing and Gulf Power's appliance sales staff, marketing efforts would have little or no impact on efficiency upgrades in this market.

Advanced energy management is a substitute, as well as competing measure, for direct load control. Advanced energy management was evaluated for new and existing residential customers. Advanced energy management is a direct application of Gulf Power's efforts in flexible pricing as a means of communicating to the customer a price signal based on the marginal cost of providing electric service. Advanced energy management has essentially the same load shape impact as the direct load control measure. Since the advanced energy management measure is more compatible with the Company's pricing philosophy and appears, based on customer research, to have wider customer appeal, it was substituted for direct load control of air conditioning.

Q. Were any other demand-side management measures evaluated?

A. Yes, The Legal Environmental Assistance Foundation (LEAF) submitted eight (8) measures for the new and existing residential market. The measures relating to compact fluorescent technologies were evaluated in the original list of 120 measures from the SRC study. These measures failed to pass both the RIM and participants' tests.

Blower door infiltration reduction, a measure proposed by LEAF, is assumed by Gulf Power Company to be part of the diagnostic guided duct leakage reduction

measure contained in the SRC study. Both of these measures utilize the blower door to identify leakage areas of an existing home. In fact, duct leakage reduction actions do result in infiltration reduction for the entire home. Gulf Power has no data which singles out the benefit of only testing and repairing the structural envelope of the house and has found no source of such information. Gulf's experience with diagnostic guided duct leakage reduction has been that customers are unwilling to participate in the program offering. Therefore, the measure was excluded from the final portfolio of measures. While Gulf Power continues to offer this program to customers desiring to participate, the Company is not actively pursing this market.

Q. What portfolio of residential measures provide the basis for the goals proposed in the testimony of Margaret D. Neyman?

A. The final portfolio of residential market measures consists of the following: ground source heat pumps, high efficiency room air conditioners, best current refrigerators - frost free and manual defrost, and advanced energy management.

Q. Could you please describe the how the commercial and industrial measures were analyzed?

A. The commercial and industrial demand-side measures were evaluated in the same manner as the residential measures. The SRC measures were subjected to both the RIM and participants' tests based on information from Gulf Power Company's latest planning process. If the measure failed the RIM test it was dropped from further consideration. If the measure passed the RIM test but failed the participants' test, RIM dollars were allocated to the participant to increase the value or lower the cost to the participant. If this process resulted in the measure passing the participants' and the RIM tests, it was included for further analysis. Otherwise, the measure was dropped from further consideration.

As with the residential measures, the initial screening assumed neither recurring or one time utility program costs or rebates and incentives. Again, this was explicitly done to maximize the potential of a demand-side measure passing the RIM and participants' test and therefore making it into the final portfolio.

Q. From the first screening exercise, how many commercial and industrial measures passed both the RIM and participants' test?

A. In the new and existing commercial and industrial market thirteen (13) air conditioning, water heating, refrigeration, and cooking measures passed both RIM and the participants' test. In addition, thirteen lighting measures passed both tests.

Q. Could you please describe the process you used to include or exclude lighting demand-side options in the commercial and industrial market?

A. In the commercial and industrial market, many of the demand-side measures in the SRC study are competing or complementary in nature. For example, the lighting measures for existing buildings are competing technologies. The consumer, when deciding on replacing fixtures or bulbs, will generally choose only one option. In having to select among the competing technologies, the selection of one option automatically rules out the other options.

In new construction, the Florida Energy Efficiency Code for building construction has reduced the lighting unit power density (watts per square foot) in commercial buildings to a low enough allowable level that the new

construction in Northwest Florida has almost completely adopted the new T-8 electronic ballast fluorescent technology. Locally and nationally, the net result has been a steady decline in the T-8 technology cost as competition to supply the market has driven cost down. The T-8s are currently the most efficient fluorescent lighting available and the market is essentially in a free rider situation. The premium for a four lamp T-8 lighting fixture is only $5.00 over the next most efficient lighting option.

The existing market for replacement energy efficient lighting is nearly the same as the new building market. The technology of choice is the T-8 option in retrofitting and conversion. Given, the high level of free ridership in the lighting market, Gulf Power did not include any measures from the lighting options.

Q. How did you evaluate lighting; heat, cooling, and ventilation; window options; and thermal shell in the commercial and industrial market?

A. While no single lighting technology was included in the demand-side portfolio, the interaction of lighting with heating and cooling requirements and other building features could not be ignored. Gulf Power Company evaluated the GoodCents building measure. The GoodCents

building measure incorporates energy efficient lighting with heating, cooling, and ventilation and with thermal shell features (for example: windows, shading, and building insulation). Based on experience and program offerings, Gulf Power Company has collected data on the complementary nature of these building characteristics. While individually cost effective, for evaluation purposes it was more practical to assess these measures as a unit. This approach of packaging the best set of complementary energy efficient technologies maximizes the benefit to the consumer and to the utility as well. The GoodCents building measure passed both the RIM and participants' tests.

Three other demand-side measures from the SRC study passed both the RIM and participants' tests: high efficiency room air conditioners (PTAC units), heat pump water heating, and energy efficient electric fryers. These measures, along with GoodCents buildings, are included in the final portfolio of commercial and industrial demand side measures.

Q. Did you evaluate any other measures not originally included in the SRC study?

A. Yes, interruptible service and real time pricing were analyzed and included in the commercial and industrial

measures. Interruptible service provides Gulf Power with a contracted and callable resource. Per contractual arrangements between the utility and the customers, participants agree to reduce demand in periods of reliability constraints.

Real time pricing, as with advanced energy management, is part of Gulf Power Company's strategy of employing flexible pricing mechanisms to achieve gains in economic efficiency. Customers are sent daily the forecasted prices for the next 24 hours. These price signals reflect the company's marginal cost of providing electric service. Customers receiving the price signals then make choices as to when and how much of the product they will consume. Real time pricing has resulted in customers responding to price by reducing peak demand consumption and making purchases in off-peak hours.

Q. Did you evaluate any of LEAF's supplemental commercial demand-side measures?

A. Yes. Some of the LEAF measures were duplicates of the SRC measures. Those measures were evaluated as previously described. Some of the measures were covered under existing building code requirements or would be more effectively handled as code changes rather than as demand-side management options. For the remaining

measures, the data necessary to perform a cost-effectiveness test was not provided (for example, incremental demand and energy savings, cost, or market share and penetration rates).

Q. What portfolio of commercial and industrial demand side measures provide the basis for the goals proposed in the testimony of Margaret D. Neyman?

A. The final portfolio of commercial and industrial demand side measures consists of the following: high efficiency room air conditioners (PTAC), heat pump water heaters, energy efficient electric fryers, commercial GoodCents buildings, real time pricing, and interruptible service.

Q. Could you please describe the basis of Gulf's avoided unit costs used in the cost effectiveness model?

A. In an optimally planned system (that is, a system designed to meet an exogeneously determined load at minimum cost) prices should be set equal to the marginal running cost at any given hour plus the capital cost of meeting one extra kilowatt of peak demand charged at the peak hour only. Demand side management programs are generally constructed to reduce customer demand and/or energy. The cost avoided (or saved) is therefore also equal to the marginal generation cost at the period of

peak demand and marginal energy reduction.

As part of the Southern electric system, Gulf Power Company's generation being avoided is at the time of the system peak. The most cost efficient means of supplying peak demand is through the purchase or construction of a combustion turbine. When evaluating a demand side management program for cost/benefit purposes, the savings/benefits accrue by avoiding construction of capacity or purchasing capacity and/or energy at the peak. If a demand side management program is successful at reducing demand, the Southern system avoids building peak capacity or purchasing capacity and energy in the market.

For evaluation purposes, the base year of the cost-effectiveness test was 2000. The first year of avoidable purchased or added capacity was assumed to be 2001. The Southern system until that time can meet current and projected load growth with existing generation and contracted purchased capacity. If capacity could be obtained in the market for a price less than the avoided cost of a combustion turbine then that cost would be the avoidable cost.

Capacity additions are planned to minimize total present value cost to the consumer. The addition of base or intermediate generation does not necessarily equate

with the avoided generation that a demand side management program displaces. For example, assume that the next planned unit on a system was a base load coal unit. If a company were to introduce a program which reduced residential peak demand it is not the base load unit that would be avoided but a peaking unit. The base load unit's operating characteristics are such that it would be operated the maximum number of possible hours to balance relatively high initial capital cost with relatively low energy costs. It would be far more economical to build a combustion turbine or acquire in the market place an additional kilowatt from a combustion turbine or other peaking unit which is needed for only a few hours of the year.

In summary, a demand side program having an intended consequence of reducing demand saves the utility and its customers the cost of generation at the time of the peak reduction. If that occurs when the system is peaking, the savings are exactly equal to the capital cost of an avoided peaking unit including the running costs that are avoided.

Q. Does this conclude your testimony?

A. Yes, it does.

AFFIDAVIT

STATE OF FLORIDA)
)
COUNTY OF ESCAMBIA)

Docket No. 971006-EG

Before me the undersigned authority, personally appeared Michael J. McCarthy, who being first duly sworn, deposes and says that he is a Marketing Services Specialist of Gulf Power Company, a Maine Corporation, that the foregoing is true and correct to the best of his knowledge, information and belief. He is personally known to me.

Michael J. McCarthy
Marketing Specialist

Sworn to and subscribed before me this 28th day of January, 1999.

Notary Public, State of Florida at Large

CAROLYN W. WORKMAN
MY COMMISSION # CC 692290
EXPIRES: February 24, 2002
Bonded Thru Notary Public Underwriters

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GULF POWER COMPANY
Total Residential, Commercial & Industrial Markets
New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Total All Markets	2000	(52,822)	(68,399)	(47,988)	(62,140)	(17,476)	(18,822)	(18,822)
Total All Markets	2001	(69,879)	(90,487)	(67,404)	(87,282)	(33,373)	(35,943)	(54,765)
Total All Markets	2002	(90,055)	(116,612)	(90,477)	(117,158)	(51,989)	(55,992)	(110,757)
Total All Markets	2003	(107,400)	(139,072)	(110,271)	(142,790)	(68,287)	(73,545)	(184,302)
Total All Markets	2004	(122,658)	(158,830)	(127,654)	(165,299)	(82,899)	(89,283)	(273,585)
Total All Markets	2005	(135,830)	(175,886)	(142,627)	(184,688)	(95,825)	(103,204)	(376,788)
Total All Markets	2006	(146,026)	(189,089)	(154,133)	(199,586)	(106,233)	(114,413)	(491,202)
Total All Markets	2007	(156,223)	(202,293)	(165,639)	(214,485)	(116,644)	(125,626)	(616,827)
Total All Markets	2008	(163,444)	(211,643)	(173,677)	(224,894)	(124,538)	(134,127)	(750,954)
Total All Markets	2009	(170,665)	(220,994)	(181,716)	(235,304)	(132,433)	(142,631)	(893,585)

	RIM	Participant	TRC
NPV Benefits ($000s)	$148,557	$103,102	$139,203
NPV Costs ($000s)	$122,111	$79,374	$89,029
NPV Net Benefits ($000s)	$26,446	$23,728	$50,174
Benefit/Cost Ratio	1.217	1.299	1.564

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GULF POWER COMPANY
Residential Measures
Total New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Residential Measures	2000	(17,245)	(22,331)	(20,086)	(26,009)	(15,524)	(16,719)	(16,719)
Residential Measures	2001	(33,278)	(43,092)	(38,619)	(50,008)	(29,499)	(31,770)	(48,489)
Residential Measures	2002	(52,432)	(67,894)	(60,811)	(78,744)	(46,196)	(49,753)	(98,242)
Residential Measures	2003	(68,755)	(89,031)	(79,724)	(103,234)	(60,574)	(65,238)	(163,480)
Residential Measures	2004	(82,991)	(107,465)	(96,226)	(124,603)	(73,263)	(78,904)	(242,384)
Residential Measures	2005	(95,140)	(123,197)	(110,318)	(142,850)	(84,263)	(90,751)	(333,135)
Residential Measures	2006	(104,313)	(135,075)	(120,941)	(156,606)	(92,743)	(99,885)	(433,020)
Residential Measures	2007	(113,486)	(146,953)	(131,564)	(170,363)	(101,224)	(109,018)	(542,038)
Residential Measures	2008	(119,683)	(154,977)	(138,720)	(179,628)	(107,184)	(115,437)	(657,475)
Residential Measures	2009	(125,880)	(163,002)	(145,875)	(188,894)	(113,144)	(121,857)	(779,332)

	RIM	Participant	TRC
NPV Benefits ($000s)	$114,261	$80,212	$115,264
NPV Costs ($000s)	$91,319	$67,001	$79,112
NPV Net Benefits ($000s)	$22,942	$13,211	$36,153
Benefit/Cost Ratio	1.251	1.197	1.457

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GULF POWER COMPANY
RSC - 2
Ground Source Heat Pump

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RSC - 2	2000	(1,834)	(2,375)	(2,404)	(3,112)	(2,545)	(2,741)	(2,741)
RSC - 2	2001	(2,704)	(3,502)	(3,544)	(4,588)	(3,752)	(4,041)	(6,782)
RSC - 2	2002	(3,719)	(4,816)	(4,874)	(6,311)	(5,161)	(5,558)	(12,341)
RSC - 2	2003	(4,879)	(6,318)	(6,394)	(8,279)	(6,770)	(7,292)	(19,632)
RSC - 2	2004	(6,184)	(8,008)	(8,104)	(10,493)	(8,581)	(9,242)	(28,874)
RSC - 2	2005	(7,634)	(9,886)	(10,004)	(12,954)	(10,593)	(11,409)	(40,283)
RSC - 2	2006	(9,084)	(11,763)	(11,904)	(15,414)	(12,605)	(13,576)	(53,859)
RSC - 2	2007	(10,534)	(13,641)	(13,804)	(17,874)	(14,617)	(15,743)	(69,602)
RSC - 2	2008	(11,984)	(15,518)	(15,704)	(20,334)	(16,629)	(17,910)	(87,511)
RSC - 2	2009	(13,434)	(17,396)	(17,604)	(22,795)	(18,641)	(20,077)	(107,588)

	RIM	Participant	TRC
NPV Benefits ($000s)	$16,687	$27,280	$17,690
NPV Costs ($000s)	$12,819	$28,266	$14,808
NPV Net Benefits ($000s)	$3,868	($985)	$2,883
Benefit/Cost Ratio	1.302	0.965	1.195

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GULF POWER COMPANY
RSC - 24A
High Efficiency Room Air Conditioner

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RSC - 24A	2000	(230)	(297)	0	0	(119)	(129)	(129)
RSC - 24A	2001	(459)	(595)	0	0	(239)	(257)	(386)
RSC - 24A	2002	(689)	(892)	0	0	(358)	(386)	(772)
RSC - 24A	2003	(918)	(1,189)	0	0	(478)	(514)	(1,286)
RSC - 24A	2004	(1,148)	(1,487)	0	0	(597)	(643)	(1,929)
RSC - 24A	2005	(1,378)	(1,784)	0	0	(716)	(772)	(2,700)
RSC - 24A	2006	(1,607)	(2,081)	0	0	(836)	(900)	(3,600)
RSC - 24A	2007	(1,837)	(2,378)	0	0	(955)	(1,029)	(4,629)
RSC - 24A	2008	(2,066)	(2,676)	0	0	(1,075)	(1,157)	(5,786)
RSC - 24A	2009	(2,296)	(2,973)	0	0	(1,194)	(1,286)	(7,072)

	RIM	Participant	TRC
NPV Benefits ($000s)	$1,570	$633	$1,570
NPV Costs ($000s)	$684	$310	$362
NPV Net Benefits ($000s)	$886	$322	$1,208
Benefit/Cost Ratio	2.294	2.039	4.338

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GULF POWER COMPANY
RF - 1
Best Current Refrigerator (Frost-Free)

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RF - 1	2000	(25)	(32)	(25)	(32)	(45)	(48)	(48)
RF - 1	2001	(50)	(65)	(50)	(65)	(90)	(96)	(145)
RF - 1	2002	(75)	(97)	(75)	(97)	(134)	(145)	(289)
RF - 1	2003	(100)	(129)	(100)	(129)	(179)	(193)	(482)
RF - 1	2004	(125)	(162)	(125)	(162)	(224)	(241)	(723)
RF - 1	2005	(150)	(194)	(150)	(194)	(269)	(289)	(1,012)
RF - 1	2006	(175)	(227)	(175)	(227)	(313)	(337)	(1,349)
RF - 1	2007	(200)	(259)	(200)	(259)	(358)	(386)	(1,735)
RF - 1	2008	(225)	(291)	(225)	(291)	(403)	(434)	(2,169)
RF - 1	2009	(250)	(324)	(250)	(324)	(448)	(482)	(2,651)

	RIM	Participant	TRC
NPV Benefits ($000s)	$239	$218	$239
NPV Costs ($000s)	$238	$152	$171
NPV Net Benefits ($000s)	$1	$67	$68
Benefit/Cost Ratio	1.005	1.439	1.396

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GULF POWER COMPANY
RF - 2
Best Current Refrigerator (Manual Defrost)

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RF - 2	2000	(28)	(37)	(28)	(37)	(4)	(5)	(5)
RF - 2	2001	(57)	(73)	(57)	(73)	(8)	(9)	(14)
RF - 2	2002	(85)	(110)	(85)	(110)	(13)	(14)	(27)
RF - 2	2003	(113)	(147)	(113)	(147)	(17)	(18)	(45)
RF - 2	2004	(142)	(184)	(142)	(184)	(21)	(23)	(68)
RF - 2	2005	(170)	(220)	(170)	(220)	(25)	(27)	(95)
RF - 2	2006	(198)	(257)	(198)	(257)	(29)	(32)	(126)
RF - 2	2007	(227)	(294)	(227)	(294)	(33)	(36)	(162)
RF - 2	2008	(255)	(330)	(255)	(330)	(38)	(41)	(203)
RF - 2	2009	(284)	(367)	(284)	(367)	(42)	(45)	(248)

	RIM	Participant	TRC
NPV Benefits ($000s)	$171	$49	$171
NPV Costs ($000s)	$59	$43	$53
NPV Net Benefits ($000s)	$112	$6	$118
Benefit/Cost Ratio	2.886	1.143	3.217

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AEM
Advanced Energy Management

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
AEM	2000	(15,128)	(19,589)	(17,629)	(22,828)	(12,810)	(13,796)	(13,796)
AEM	2001	(30,008)	(38,857)	(34,969)	(45,281)	(25,410)	(27,367)	(41,163)
AEM	2002	(47,864)	(61,979)	(55,777)	(72,226)	(40,530)	(43,651)	(84,814)
AEM	2003	(62,744)	(81,247)	(73,117)	(94,679)	(53,130)	(57,221)	(142,035)
AEM	2004	(75,392)	(97,625)	(87,856)	(113,765)	(63,840)	(68,756)	(210,790)
AEM	2005	(85,808)	(111,113)	(99,994)	(129,482)	(72,660)	(78,255)	(289,045)
AEM	2006	(93,248)	(120,747)	(108,664)	(140,709)	(78,960)	(85,040)	(374,085)
AEM	2007	(100,688)	(130,381)	(117,334)	(151,936)	(85,260)	(91,825)	(465,910)
AEM	2008	(105,152)	(136,161)	(122,536)	(158,672)	(89,040)	(95,896)	(561,806)
AEM	2009	(109,616)	(141,942)	(127,738)	(165,408)	(92,820)	(99,967)	(661,773)

	RIM	Participant	TRC
NPV Benefits ($000s)	$95,594	$52,032	$95,594
NPV Costs ($000s)	$77,518	$38,230	$63,717
NPV Net Benefits ($000s)	$18,075	$13,801	$31,876
Benefit/Cost Ratio	1.233	1.361	1.500

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GULF POWER COMPANY
Commercial & Industrial Measures
Total New and Existing Structures

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Commercial & Industrial	2000	(35,577)	(46,069)	(27,902)	(36,130)	(1,953)	(2,103)	(2,103)
Commercial & Industrial	2001	(36,601)	(47,395)	(28,785)	(37,274)	(3,874)	(4,172)	(6,276)
Commercial & Industrial	2002	(37,623)	(48,718)	(29,666)	(38,415)	(5,793)	(6,239)	(12,515)
Commercial & Industrial	2003	(38,645)	(50,041)	(30,547)	(39,555)	(7,713)	(8,307)	(20,822)
Commercial & Industrial	2004	(39,667)	(51,365)	(31,428)	(40,696)	(9,636)	(10,378)	(31,200)
Commercial & Industrial	2005	(40,690)	(52,689)	(32,310)	(41,838)	(11,562)	(12,452)	(43,653)
Commercial & Industrial	2006	(41,713)	(54,014)	(33,192)	(42,980)	(13,490)	(14,529)	(58,181)
Commercial & Industrial	2007	(42,737)	(55,340)	(34,074)	(44,123)	(15,420)	(16,608)	(74,789)
Commercial & Industrial	2008	(43,761)	(56,666)	(34,957)	(45,266)	(17,353)	(18,690)	(93,479)
Commercial & Industrial	2009	(44,785)	(57,993)	(35,841)	(46,410)	(19,289)	(20,774)	(114,253)

	RIM	Participant	TRC
NPV Benefits ($000s)	$34,296	$22,890	$23,938
NPV Costs ($000s)	$30,792	$12,374	$9,918
NPV Net Benefits ($000s)	$3,504	$10,517	$14,021
Benefit/Cost Ratio	1.114	1.850	2.414

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GULF POWER COMPANY
SC-D-4
High Efficiency Room Air Conditioner - PTAC

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
SC-D-4	2000	(4)	(5)	0	0	(5)	(5)	(5)
SC-D-4	2001	(7)	(9)	0	0	(8)	(9)	(14)
SC-D-4	2002	(10)	(14)	0	0	(12)	(13)	(27)
SC-D-4	2003	(14)	(18)	0	0	(16)	(17)	(45)
SC-D-4	2004	(17)	(22)	0	0	(20)	(22)	(66)
SC-D-4	2005	(20)	(26)	0	0	(24)	(26)	(92)
SC-D-4	2006	(24)	(31)	0	0	(28)	(30)	(122)
SC-D-4	2007	(27)	(35)	0	0	(32)	(34)	(156)
SC-D-4	2008	(30)	(39)	0	0	(36)	(38)	(195)
SC-D-4	2009	(34)	(43)	0	0	(40)	(43)	(237)

	RIM	Participant	TRC
NPV Benefits ($000s)	$28	$15	$28
NPV Costs ($000s)	$15	$12	$12
NPV Net Benefits ($000s)	$13	$3	$16
Benefit/Cost Ratio	1.832	1.256	2.301

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GULF POWER COMPANY
W-D-11
Heat Pump Water Heater

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
W-D-11	2000	(5)	(6)	(5)	(6)	(25)	(27)	(27)
W-D-11	2001	(9)	(12)	(9)	(12)	(52)	(56)	(83)
W-D-11	2002	(15)	(19)	(15)	(19)	(82)	(89)	(172)
W-D-11	2003	(21)	(27)	(21)	(27)	(115)	(123)	(295)
W-D-11	2004	(27)	(35)	(27)	(35)	(150)	(161)	(456)
W-D-11	2005	(34)	(44)	(34)	(44)	(187)	(201)	(658)
W-D-11	2006	(41)	(53)	(41)	(53)	(227)	(244)	(902)
W-D-11	2007	(49)	(63)	(49)	(63)	(269)	(290)	(1,192)
W-D-11	2008	(57)	(73)	(57)	(73)	(314)	(338)	(1,530)
W-D-11	2009	(65)	(84)	(65)	(84)	(361)	(389)	(1,919)

	RIM	Participant	TRC
NPV Benefits ($000s)	$109	$109	$109
NPV Costs ($000s)	$109	$65	$65
NPV Net Benefits ($000s)	$0	$44	$45
Benefit/Cost Ratio	1.001	1.687	1.689

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GULF POWER COMPANY
C-D-19
Energy Efficient Electric Fryers

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
C-D-19	2000	(35)	(45)	(35)	(45)	(59)	(64)	(64)
C-D-19	2001	(65)	(84)	(65)	(84)	(111)	(119)	(183)
C-D-19	2002	(92)	(119)	(92)	(119)	(158)	(170)	(353)
C-D-19	2003	(119)	(154)	(119)	(154)	(204)	(219)	(572)
C-D-19	2004	(146)	(189)	(146)	(189)	(250)	(269)	(841)
C-D-19	2005	(173)	(224)	(173)	(224)	(296)	(318)	(1,159)
C-D-19	2006	(200)	(259)	(200)	(259)	(342)	(368)	(1,527)
C-D-19	2007	(227)	(293)	(227)	(293)	(388)	(417)	(1,944)
C-D-19	2008	(253)	(328)	(253)	(328)	(433)	(467)	(2,411)
C-D-19	2009	(280)	(363)	(280)	(363)	(479)	(516)	(2,928)

	RIM	Participant	TRC
NPV Benefits ($000s)	$268	$140	$268
NPV Costs ($000s)	$140	$56	$56
NPV Net Benefits ($000s)	$128	$85	$212
Benefit/Cost Ratio	1.909	2.516	4.804

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GULF POWER COMPANY
GCCOM
GoodCents Commercial Building

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
GCCOM	2000	(1,000)	(1,295)	(860)	(1,114)	(1,864)	(2,008)	(2,008)
GCCOM	2001	(1,986)	(2,571)	(1,708)	(2,212)	(3,703)	(3,988)	(5,995)
GCCOM	2002	(2,971)	(3,848)	(2,556)	(3,310)	(5,541)	(5,967)	(11,963)
GCCOM	2003	(3,957)	(5,124)	(3,404)	(4,408)	(7,379)	(7,947)	(19,910)
GCCOM	2004	(4,943)	(6,401)	(4,252)	(5,506)	(9,217)	(9,927)	(29,837)
GCCOM	2005	(5,929)	(7,677)	(5,100)	(6,604)	(11,056)	(11,907)	(41,744)
GCCOM	2006	(6,915)	(8,954)	(5,948)	(7,702)	(12,894)	(13,887)	(55,630)
GCCOM	2007	(7,900)	(10,230)	(6,796)	(8,800)	(14,732)	(15,866)	(71,497)
GCCOM	2008	(8,886)	(11,507)	(7,644)	(9,898)	(16,570)	(17,846)	(89,343)
GCCOM	2009	(9,872)	(12,783)	(8,492)	(10,996)	(18,409)	(19,826)	(109,169)

	RIM	Participant	TRC
NPV Benefits ($000s)	$10,123	$7,239	$10,123
NPV Costs ($000s)	$7,239	$1,883	$1,883
NPV Net Benefits ($000s)	$2,883	$5,356	$8,240
Benefit/Cost Ratio	1.398	3.844	5.376

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GULF POWER COMPANY
RTP
Real Time Pricing

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
RTP	2000	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2001	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2002	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2003	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2004	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2005	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2006	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2007	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2008	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-
RTP	2009	(16,000)	(20,718)	(8,469)	(10,966)	-	-	-

	RIM	Participant	TRC
NPV Benefits ($000s)	$23,769	$15,386	$13,411
NPV Costs ($000s)	$23,288	$10,358	$7,902
NPV Net Benefits ($000s)	$481	$5,028	$5,509
Benefit/Cost Ratio	1.021	1.485	1.697

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GULF POWER COMPANY
INT_SRV
Interruptible Service

Demand Side Measure	Year	Annual Summer kW at Meter	Annual Summer kW at Generator	Annual Winter kW at Meter	Annual Winter kW at Generator	Annual kWh Savings (000) Customer	Annual kWh Savings (000) Generation	Annual kWh Savings (000) Cumulative Generation
Interruptible Service	2000	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2001	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2002	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2003	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2004	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2005	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2006	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2007	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2008	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA
Interruptible Service	2009	(18,534)	(24,000)	(18,534)	(24,000)	NA	NA	NA

	RIM	Participant	TRC
NPV Benefits ($000s)			
NPV Costs ($000s)			
NPV Net Benefits ($000s)			
Benefit/Cost Ratio			

Information on the cost-effectiveness of interruptible service is considered confidential by Gulf Power. The information has been provided to the FPSC staff.

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