

STEEL  
HECTOR  
DAVIS

24  
ORIGINAL  
FILE COPY  
Steel Hector & Davis  
215 South Monroe, Suite 100  
Tallahassee, Florida 32301-1804  
904-222-2100  
904-222-8479 Fax

Charles A. Guyton  
904-222-2401

May 6, 1997

By Hand Delivery

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

970546 EG

**Re: Off Peak Battery Charging Program**

Dear Ms. Bayo:

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 Off Peak Battery Charging Program

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

Very truly yours,



Charles A. Guyton

CAG/ld  
encs  
LAL/19765-1

Miami  
305-577-7000  
305-577-7001 Fax

West Palm Beach  
561-650-7200  
561-677-1509 Fax

Fort Worth  
817-261-1000  
817-261-1001 Fax

DOCUMENT NUMBER-DATE  
04485-MAY-65  
FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

ORIGINAL  
FILE COPY

In Re: Petition for Modification of )  
Florida Power & Light Company's ) Docket No.  
Off Peak Battery Charging Program ) Filed: May 6, 1997

PETITION FOR MODIFICATION OF FLORIDA POWER & LIGHT  
COMPANY'S OFF PEAK BATTERY CHARGING 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 Off Peak Battery Charging Program set forth in this petition and attachments, (2) allow FPL to recover reasonable and prudent expenditures for the modified Off Peak Battery Charging Program, and (3) include FPL's modified Off Peak Battery Charging 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

1  
DOCUMENT NUMBER-DATE  
04485 MAY-65  
FPSC-RECORDS/REPORTING

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 Off Peak Battery Charging 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 Off Peak Battery Charging Program is to reduce the current coincident peak demand and the future growth of coincident peak demand on FPL's system by shifting from on-peak to off-peak time periods the demand from battery charging applications. Under this program FPL provides incentives to customers (or their designers) for installation of a control system that restricts a participating customer's battery charging to off-peak periods. The Off Peak Battery Charging Program, as FPL proposes to modify it, is more fully described in Appendix A attached to this petition.

4. The Off Peak Battery Charging 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 modified Off Peak Battery Charging Program will reduce cumulative summer peak demand by 302 kW and winter peak demand by 28 kW for the period 1998 through 2000.

5. The Off Peak Battery Charging 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 plan. FPL seeks to modify the Off Peak Battery Charging Program to increase program participation. To increase participation in the Off Peak Battery Charging Program, FPL proposes to increase the incentive per kw of on-peak battery reduction from \$57 to no more than \$75. This modification should increase participation while allowing the program to continue to achieve a benefit/cost ratio greater than 1.0 under the RIM and Participants tests.

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

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


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

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

Respectfully submitted,

STEEL HECTOR & DAVIS LLP  
Suite 601, 215 S. Monroe St  
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 )  
Off Peak Battery Charging 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 Off Peak Battery Charging 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  
Charles A. Guyton

## APPENDIX A

### COMMERCIAL / INDUSTRIAL OFF PEAK BATTERY CHARGING PROGRAM

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

The Commercial / Industrial Off Peak Battery Charging Program is designed to reduce the current coincident peak demand and the future growth of coincident peak demand by shifting from on-peak to off-peak time periods the demand from battery charging applications. This is accomplished by the installation of a control system that will restrict a participating customer's battery charging to off-peak periods.

FPL will provide an incentive to customers (or their designees) who install an FPL approved control system. The participating customers will also receive any operating savings derived from the installation of the control equipment.

FPL plans to make commercial and industrial customers aware of this program through dealers, distributors, contractors, retail outlets and other trade allies, appropriate advertising and promotion activities, as well as direct contact with potential participants by FPL personnel.

#### **II. Summary of Program Changes**

FPL's current Off-Peak Battery Charging Program has an incentive of \$57 per kw of summer peak reduction reduced. Based on the latest cost-effectiveness analysis for this program, the incentive is being increased to a level not to exceed \$75 per kw of summer peak reduction.

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

The program will be available to FPL commercial and industrial customers who are demand billed and have facilities with electric battery charging loads that can be effectively shifted, through the use of a control system, from FPL's daily on-peak time periods. A minimum of 70 percent of the battery charging load must be controlled by the control system.

To qualify, the control system being considered by the customer shall meet or exceed, to FPL's satisfaction, the functional specifications developed by FPL. The functional specifications shall consist of both the equipment and installation requirements, which will be made a part of FPL's Program Standards. The Program Standards will be subject to periodic review and may change over time based on factors such as, but not limited to, technological advances, operational needs, program results, application assumptions and incentive amounts.

The customer will have the option to select existing eligible control equipment (i.e., equipment that has met or exceeded the program's functional specifications) or have FPL review other control equipment the customer desires to install. For customers who desire to install equipment not currently eligible to participate in the program, the customer will provide to FPL manufacturer literature, contractor documentation and any other supporting literature which clearly indicates how the proposed system will perform as required to meet or exceed FPL's functional specifications. Upon submission and review of the information, FPL will determine whether the customer and the equipment are eligible to participate in the program.



The incentive listed by the Program Standards shall not exceed \$75 per kw of summer peak load controlled. No incentive amount shall exceed the purchase price of the equipment which would be installed in order to effectively perform the required load shifting.

The customer's kw controlled amount derived by FPL is an engineering estimate based upon customers with similar load characteristics that can be grouped into a typical category/application (i.e., golf courses) and will be defined by the Program Standard. Alternatively, for loads without a typical category/application, the kw controlled amount derived by FPL will be an engineering estimate of a customer's individual load characteristics.

Prior to an incentive being issued, the participant must provide to FPL an itemized invoice for the completed installation. FPL will do post-installation inspections to verify the proper operation of controllers and the actual number of circuits being controlled.

A customer receiving an incentive under this program shall repay the incentive plus interest to FPL if the customer: 1) takes service at the customer's facility under a non-qualifying rate as specified in the Program Standard within five years of receiving the incentive, 2) fails to maintain and operate the equipment (i.e., the control or battery charging equipment), or 3) removes or disconnects the equipment.

The participating customer will allow FPL, at FPL's discretion, to access, monitor and/or analyze the customer's load (total, and battery charging, etc.), and conduct post-installation inspections.

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

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

The projected demand savings for the period 1998 through 2000 are 302 kW of summer peak demand reduction and 28 kW of winter peak demand reduction. The demand reduction projections are based on engineering assumptions and calculations.

#### **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 Commercial / Industrial Off Peak Battery Charging Program: 2.32 Participants, 1.63 RIM, 2.88 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: Off-Peak Battery Charging

**I PROGRAM DEMAND SAVINGS & LINE LOSSES**

(1) CUSTOMER KW REDUCTION AT METER 0.88 KW  
 (2) GENERATOR KW REDUCTION PER CUSTOMER 1.10 KW  
 (3) KW LINE LOSS PERCENTAGE 8.32 %  
 (4) GENERATOR KW REDUCTION PER CUSTOMER 1.683.9 KW  
 (5) KW LINE LOSS PERCENTAGE 8.75 %  
 (6) GROUP LINE LOSS MAX TPLIER 1.0000  
 (7) CUSTOMER KW INCREASE AT METER 1570.2 KW

**J ECONOMIC LIFE & K FACTORS**

(1) STUDY PERIOD FOR THE CONSERVATION PROGRAM 25 YEARS  
 (2) GENERATOR ECONOMIC LIFE 30 YEARS  
 (3) TLD ECONOMIC LIFE 35 YEARS  
 (4) K FACTOR FOR GENERATION 1.81229  
 (5) K FACTOR FOR TLD 1.44787

**K UTILITY & CUSTOMER COSTS**

(1) UTILITY NON RECURRING COST PER CUSTOMER -- \$CUST  
 (2) UTILITY RECURRING COST PER CUSTOMER -- \$CUST  
 (3) UTILITY COST ESCALATION RATE -- %  
 (4) CUSTOMER EQUIPMENT COST -- \$CUST  
 (5) CUSTOMER EQUIPMENT ESCALATION RATE -- %  
 (6) CUSTOMER O & M COST -- \$CUST/YR  
 (7) CUSTOMER O & M COST ESCALATION RATE -- %  
 (8) INCREASED SUPPLY COSTS -- \$CUST/YR  
 (9) SUPPLY COSTS ESCALATION RATES -- %  
 (10) UTILITY DISCOUNT RATE 9.22 %  
 (11) UTILITY APUDC RATE 10.70 %  
 (12) UTILITY NON RECURRING REBATE/INCENTIVE -- \$CUST  
 (13) UTILITY RECURRING REBATE/INCENTIVE -- \$CUST  
 (14) UTILITY REBATE/INCENTIVE ESCALATION RATE -- %

**L PROGRAM DEMAND SAVINGS & TLD COSTS**

(1) BASE YEAR 1998  
 (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT 2001  
 (3) IN-SERVICE YEAR FOR AVOIDED TLD 1999-2001  
 (4) BASE YEAR AVOIDED GENERATING COST 285 \$/KW  
 (5) BASE YEAR AVOIDED TRANSMISSION COST 70 \$/KW  
 (6) BASE YEAR DISTRIBUTION COST 50 \$/KW  
 (7) GEN. TRAN & DIST COST ESCALATION RATE 2.95 %  
 (8) GENERATOR FIXED O & M COST 8 \$/KWYR  
 (9) GENERATOR FIXED O & M ESCALATION RATE 3.34 %  
 (10) TRANSMISSION FIXED O & M COST 2.73 \$/KW  
 (11) DISTRIBUTION FIXED O & M COST 13.01 \$/KW  
 (12) TLD FIXED O & M ESCALATION RATE 3.34 %  
 (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0.030 CENTS/KWH  
 (14) GENERATOR VARIABLE O & M COST ESCALATION RATE 2.47 %  
 (15) GENERATOR CAPACITY FACTOR 30% - (In-service year)  
 (16) AVOIDED GENERATING UNIT FUEL COST 1.88 CENTS PER KWH - (In-service year)  
 (17) AVOIDED GEN UNIT FUEL COST ESCALATION RATE 5.03 %

**M NON-FUEL ENERGY AND DEMAND CHARGES**

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

• SUPPLEMENTAL INFORMATION NOT SPECIFIED IN WORKBOOK  
 -- VALUE SHOWN IS FOR FIRST YEAR ONLY (VALUE VARIES OVER TIME)  
 -- PROGRAM COST CALCULATION VALUES ARE SHOWN ON PAGE 2  
 --- THIS IS A LOAD SHIFTING PROGRAM. VALUE SHOWN IN ITEM (4) IS ANNUAL KW\*HOUR SHIFTED AWAY FROM PEAK HRS. VALUE SHOWN IN ITEM (7) IS ANNUAL KW\*HOUR\*CLUST THAT IS PAID BACK DURING OFF-PEAK

\* INPUT DATA - PART 1 CONTINUED  
 PROGRAM METHOD SELECTED: REV., REO  
 PROGRAM NAME: Oil-Peak Safety Charging

YEAR	(1) UTILITY PROGRAM COSTS WITHOUT INCENTIVES \$ (000)	(2) UTILITY INCENTIVES \$ (000)	(3) OTHER UTILITY COSTS \$ (000)	(4) TOTAL UTILITY PROGRAM COSTS \$ (000)	(5) ENERGY CHARGE REVENUE LOSSES \$ (000)	(6) DEMAND CHARGE REVENUE LOSSES \$ (000)	(7) PARTICIPANT EQUIPMENT COSTS \$ (000)	(8) PARTICIPANT O&M COSTS \$ (000)	(9) OTHER PARTICIPANT COSTS \$ (000)	(10) TOTAL PARTICIPANT COSTS \$ (000)
1986	0	0	0	0	0	0	0	0	0	
1987	0	0	0	0	0	0	0	0	0	
1988	16	0	0	26	0	3	19	0	19	
1989	13	0	0	21	0	8	16	0	17	
2000	11	0	0	17	0	12	13	0	14	
2001	0	0	0	0	0	14	0	0	14	
2002	0	0	0	0	0	-2	0	0	0	
2003	0	0	0	0	0	13	0	0	13	
2004	0	0	0	0	0	13	0	0	13	
2005	0	0	0	0	0	13	0	0	13	
2006	0	0	0	0	0	14	0	0	14	
2007	0	0	0	0	0	14	0	0	14	
2008	0	0	0	0	0	14	0	0	14	
2009	0	0	0	0	0	15	0	0	15	
2010	0	0	0	0	0	16	0	0	16	
2011	0	0	0	0	0	16	0	0	16	
2012	0	0	0	0	0	17	0	0	17	
2013	0	0	0	0	0	17	0	0	17	
2014	0	0	0	0	0	17	0	0	17	
2015	0	0	0	0	0	17	0	0	17	
2016	0	0	0	0	0	17	0	0	17	
2017	0	0	0	0	0	17	0	0	17	
2018	27	9	0	36	0	17	33	1	36	
2019	23	8	0	31	0	18	28	1	30	
2020	19	6	0	25	0	18	23	1	26	

WOM	110	45	0	155	0	333	134	22	166
NPV	41	21	0	61	0	110	49	7	56

\* 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\_REG  
PROGRAM NAME Off-Peak Battery Charging

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) DEPREC \$ (000)	(9) DEFERRED TAXES \$ (000)	(10) TOTAL FIXED CHARGES \$ (000)	(11) PRESENT WORTH FIXED CHARGES \$ (000)	(12) CUMULATIVE PW FIXED CHARGES \$ (000)
2001	114	4	0	8	5	2	4	0	23	23	23
2002	109	4	0	7	3	2	4	2	22	20	43
2003	104	4	0	7	3	2	4	2	21	18	60
2004	98	4	0	7	3	2	4	1	20	16	76
2005	93	4	0	6	3	2	4	1	20	14	90
2006	89	3	0	6	3	2	4	1	19	12	102
2007	84	3	0	6	3	2	4	1	18	11	113
2008	80	3	0	5	3	2	4	1	17	9	122
2009	75	3	0	5	3	2	4	1	17	8	130
2010	71	3	0	5	3	2	4	1	16	7	138
2011	66	3	0	5	2	2	4	1	16	6	144
2012	62	2	0	4	2	2	4	1	15	6	150
2013	58	2	0	4	2	2	4	1	14	5	155
2014	53	2	0	4	2	2	4	1	14	4	159
2015	49	2	0	3	2	2	4	1	13	4	163
2016	45	2	0	3	2	2	4	1	12	3	166
2017	40	2	0	3	2	2	4	1	12	3	169
2018	36	1	0	2	1	2	4	1	11	2	171
2019	32	1	0	2	1	2	4	1	10	2	173
2020	27	1	0	2	1	2	4	1	10	2	175
2021	23	1	0	2	2	2	4	(5)	9	2	177
2022	21	1	0	1	2	2	4	(1)	8	1	178
2023	18	1	0	1	2	2	4	(1)	8	1	179
2024	16	1	0	1	2	2	4	(1)	8	1	180
2025	13	1	0	1	2	2	4	(1)	8	1	181
2026	11	0	0	1	2	2	4	(1)	7	1	182
2027	8	0	0	1	2	2	4	(1)	7	1	183
2028	6	0	0	0	2	2	4	(1)	6	1	183
2029	4	0	0	0	2	2	4	(1)	6	1	184
2030	1	0	0	0	2	2	4	(1)	6	0	184

IN SERVICE COST (\$000)  
IN SERVICE YEAR 114  
BOOK LIFE (YRS) 30  
EFFEC TAX RATE 38.57%  
DISCOUNT RATE 9.22%  
OTAX & INS RATE 1.40%

CAPITAL STRUCTURE		
SOURCE	WEIGHT	COST
DEBT	40%	8.00%
EQ	0%	0.00%
C/S	55%	12.50%

K-FACTOR = CPWFC / IN-SVC COST \*

1.61229

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAM METHOD SELECTED REV. REQ  
PROGRAM NAME Oil-Peak Battery Charging

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
YEAR	TAX SCHEDULE	TAX DEPRECIATION	ACCUMULATED TAX DEPRECIATION	BOOK DEPRECIATION	ACCUMULATED BOOK DEPRECIATION	BOOK FOR DEPRECIATION	ACCUMULATED BOOK DEPR FOR DEPR	DEFERRED TAX DEPRECIATION DUE TO DEFERRED TAX	TOTAL EQUITY AFLOC	BOOK DEPR RATE MINUS 15.1%	(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)	\$(000)	\$(000)	\$(000)
2001	3.75%	4	4	4	4	4	4	4	0	6	0	0	0	0
2002	7.27%	6	12	4	8	4	4	7	2	6	0	0	0	2
2003	6.58%	7	20	4	11	4	4	11	2	6	0	0	2	2
2004	6.18%	7	27	4	15	4	4	14	1	6	0	0	1	3
2005	5.71%	6	33	4	19	4	4	19	1	6	0	0	1	4
2006	5.20%	6	39	4	23	4	4	22	1	6	0	0	1	5
2007	4.89%	5	45	4	27	4	4	25	1	6	0	0	1	6
2008	4.52%	5	50	4	30	4	4	29	1	6	0	0	1	7
2009	4.46%	5	55	4	34	4	4	32	1	6	0	0	1	8
2010	4.46%	5	60	4	38	4	4	36	1	6	0	0	1	9
2011	4.46%	5	65	4	42	4	4	40	1	6	0	0	1	10
2012	4.46%	5	70	4	46	4	4	43	1	6	0	0	1	11
2013	4.46%	5	75	4	49	4	4	47	1	6	0	0	1	12
2014	4.46%	5	80	4	53	4	4	50	1	6	0	0	1	13
2015	4.46%	5	85	4	57	4	4	54	1	6	0	0	1	14
2016	4.46%	5	90	4	61	4	4	58	1	6	0	0	1	15
2017	4.46%	5	95	4	65	4	4	61	1	6	0	0	1	16
2018	4.46%	5	100	4	69	4	4	65	1	6	0	0	1	17
2019	4.46%	5	105	4	72	4	4	68	1	6	0	0	1	18
2020	4.46%	5	110	4	76	4	4	72	1	6	0	0	1	19
2021	2.23%	3	112	4	80	4	4	75	0	6	0	0	0	19
2022	0.00%	0	112	4	84	4	4	79	0	6	0	0	0	19
2023	0.00%	0	112	4	88	4	4	83	0	6	0	0	0	19
2024	0.00%	0	112	4	91	4	4	86	0	6	0	0	0	19
2025	0.00%	0	112	4	95	4	4	90	0	6	0	0	0	19
2026	0.00%	0	112	4	99	4	4	93	0	6	0	0	0	19
2027	0.00%	0	112	4	103	4	4	97	0	6	0	0	0	19
2028	0.00%	0	112	4	107	4	4	101	0	6	0	0	0	19
2029	0.00%	0	112	4	110	4	4	104	0	6	0	0	0	19
2030	0.00%	0	112	4	114	4	4	108	0	6	0	0	0	19

SALVAGE / REMOVAL COST	0.00%
YEAR SALVAGE / COST OF REMOVAL	2020
DEFERRED TAXES DURING CONSTRUCTION (SEE PAGE 5)	0
TOTAL EQUITY AFLOC CAPITALIZED (SEE PAGE 5)	6
BOOK DEPR RATE - USEFUL LIFE	3.33%



DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAM METHOD SELECTED: REV\_REQ  
PROGRAM NAME: CE Push Battery Charging

(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%	4	0	110	4	(1)	116	112	114
2002	7.27%	6	2	107	6	0	112	106	109
2003	6.08%	7	2	103	11	2	106	101	104
2004	5.19%	7	1	99	13	3	101	96	98
2005	5.71%	6	1	95	19	4	96	91	93
2006	5.27%	6	1	91	23	5	91	86	89
2007	4.89%	5	1	88	27	6	86	82	84
2008	4.52%	5	1	84	30	6	82	77	80
2009	4.46%	5	1	80	34	7	77	73	75
2010	4.46%	5	1	76	38	7	73	69	71
2011	4.46%	5	1	72	42	8	69	64	66
2012	4.46%	5	1	68	46	9	64	60	62
2013	4.46%	5	1	65	49	9	60	56	58
2014	4.46%	5	1	61	53	10	56	51	53
2015	4.46%	5	1	57	57	10	51	47	49
2016	4.46%	5	1	53	61	11	47	43	45
2017	4.46%	5	1	49	65	11	43	38	40
2018	4.46%	5	1	46	69	12	38	34	36
2019	4.46%	5	1	42	72	12	34	30	32
2020	4.46%	5	1	38	76	13	30	25	27
2021	2.22%	3	(9)	34	80	12	25	22	23
2022	0.00%	0	(1)	30	84	11	22	19	21
2023	0.00%	0	(1)	27	88	10	19	17	18
2024	0.00%	0	(1)	23	91	8	17	15	16
2025	0.00%	0	(1)	19	95	7	15	12	13
2026	0.00%	0	(1)	15	99	6	12	10	11
2027	0.00%	0	(1)	11	103	4	10	7	8
2028	0.00%	0	(1)	8	107	3	7	5	6
2029	0.00%	0	(1)	4	110	1	5	2	4
2030	0.00%	0	(1)	(6)	114	0	2	0	1

\* Column not specified in workbook

(1) YEAR	(2) NO YEARS BEFORE IN-SERVICE	(3) PLANT ESCALATION RATE	(4) CUMULATIVE ESCALATION FACTOR	(5) YEARLY EXPENDITURE (%)	(6) ANNUAL SPENDING (\$AW)	(7) CUMULATIVE AVERAGE SPENDING (\$AW)
1990	5	0.00%	1.000	0.00%	0.00	0.00
1997	4	2.50%	1.028	0.00%	0.00	0.00
1998	3	2.50%	1.052	0.00%	0.00	0.00
1999	2	2.67%	1.060	36.77%	113.15	56.57
2000	1	2.89%	1.111	63.27%	200.20	213.25

100.00% 313.34

(8) YEAR	(9) NO YEARS BEFORE IN-SERVICE	(10) CUMULATIVE SPENDING WITH AFLUC (\$AW)	(11) DEBT AFLUC (\$AW)	(12) CUMULATIVE DEBT AFLUC (\$AW)	(13) YEARLY TOTAL AFLUC (\$AW)	(14) CUMULATIVE TOTAL AFLUC (\$AW)	(15) CONSTRUCTION PERIOD INTEREST (\$AW)	(16) CUMULATIVE CPI (\$AW)	(17) DEFERRED TAXES (\$AW)	(18) CUMULATIVE DEFERRED TAXES (\$AW)	(19) INCREMENTAL YEAR-END BOOK VALUE (\$AW)	(20) CUMULATIVE YEAR-END BOOK VALUE (\$AW)
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	-3.33	23.34	(3.90)	(4.92)	223.77	342.97

10.59 29.63 23.34 (4.92) 342.97

	BOOK BASIS	BOOK BASIS FOR DEF TAX	TAX BASIS
CONSTRUCTION CASH	104	104	104
EQUITY AFLUC	6	6	6
DEBT AFLUC	4	4	4
CPI			
TOTAL	114	108	112

IN SERVICE YEAR 2001  
PLANT COSTS 285  
AFLUC RATE 10.70%

\* Column not specified in workbook

INPUT DATA - PART 2  
PROGRAM METHOD SELECTED: REV\_REQ  
PROGRAM NAME: Off Peak (battery Charging)

(1)	(2)	(3)	(4)	(5)	(6)*	(7)	(8)	(9)
YEAR	CUMULATIVE TOTAL PARTICIPATING CUSTOMERS	ADJUSTED CUMULATIVE PARTICIPATING CUSTOMERS	UTILITY AVERAGE SYSTEM FUEL COST (C/MWh)	AVOIDED MARGINAL FUEL COST (C/MWh)	INCREASED MARGINAL FUEL COST (C/MWh)	REPLACEMENT FUEL COST (C/MWh)	PROGRAM KW EFFECTIVENESS FACTOR	PROGRAM MWh EFFECTIVENESS FACTOR
1996	0	0	0.00	2.89	2.38	0.00	1.00	1.00
1997	0	0	0.00	2.72	2.39	0.00	1.00	1.00
1998	121	0	0.00	2.95	2.49	0.00	1.00	1.00
1999	222	222	0.00	3.09	2.50	0.00	1.00	1.00
2000	302	302	0.00	3.44	2.60	0.00	1.00	1.00
2001	302	302	0.00	3.90	2.81	0.00	1.00	1.00
2002	302	302	0.00	3.75	2.77	2.50	1.00	1.00
2003	302	302	0.00	3.70	2.76	2.49	1.00	1.00
2004	302	302	0.00	4.08	2.96	2.96	1.00	1.00
2005	302	302	0.30	4.20	3.06	3.22	1.00	1.00
2006	302	302	0.00	4.47	3.24	3.45	1.00	1.00
2007	302	302	0.00	4.77	3.45	3.76	1.00	1.00
2008	302	302	0.00	4.91	3.58	3.67	1.00	1.00
2009	302	302	0.00	5.21	3.77	3.93	1.00	1.00
2010	302	302	0.00	5.60	3.95	4.29	1.00	1.00
2011	302	302	0.00	5.95	4.20	4.76	1.00	1.00
2012	302	302	0.00	6.16	4.39	4.74	1.00	1.00
2013	302	302	0.00	6.34	4.47	5.02	1.00	1.00
2014	302	302	0.00	6.56	4.61	5.08	1.00	1.00
2015	302	302	0.00	7.09	5.01	5.67	1.00	1.00
2016	302	302	0.00	7.32	5.12	5.90	1.00	1.00
2017	302	302	0.00	7.55	5.25	5.95	1.00	1.00
2018	302	302	0.00	7.95	5.48	6.33	1.00	1.00
2019	302	302	0.00	8.22	5.62	6.44	1.00	1.00
2020	302	302	0.00	8.40	5.79	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

page 1  
 AVOIDED GENERATING BENEFITS  
 PROGRAM METHOD SELECTED REV\_REQ  
 PROGRAM NAME Of-Peak Battery Charging

YEAR	(2) AVOIDED CAPACITY COST GEN UNIT \$(000)	(3) AVOIDED GEN UNIT FIXED O&M \$(000)	(4) AVOIDED GEN UNIT VARIABLE O&M \$(000)	(5) AVOIDED GEN UNIT FUEL COST \$(000)	(6) REPLACEMENT FUEL COST \$(000)	(7) AVOIDED GEN UNIT BENEFITS \$(000)
1996	0	0	0	0	0	0
1997	0	0	0	0	0	0
1998	0	0	0	0	0	0
1999	0	0	0	0	0	0
2000	0	0	0	0	0	0
2001	23	3	0	16	20	23
2002	22	3	0	13	16	22
2003	21	3	0	11	12	24
2004	20	4	0	12	15	21
2005	20	4	0	14	17	21
2006	19	4	0	17	19	21
2007	18	4	0	19	21	21
2008	17	4	0	20	22	22
2009	17	4	0	17	18	20
2010	16	5	0	10	12	19
2011	16	5	0	10	13	18
2012	15	5	0	19	23	17
2013	14	5	0	20	23	16
2014	14	6	0	18	22	16
2015	13	6	0	22	26	16
2016	12	6	0	18	22	15
2017	12	6	0	15	18	15
2018	11	7	0	18	21	14
2019	10	7	0	18	21	14
2020	10	7	0	17	20	14

NPV	113	27	1	98	114	126
NPV	319	98	4	326	378	370

AVOIDED T&D AND PROGRAM FUEL SAVINGS  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Off-Peak Battery Charging

page 8

(1) YEAR	(2) AVOIDED TRANSMISSION CAP COST \$(000)	(3) AVOIDED TRANSMISSION O&M COST \$(000)	(4) TOTAL AVOIDED TRANSMISSION CAP COST \$(000)	(5) AVOIDED DISTRIBUTION CAP COST \$(000)	(6) AVOIDED DISTRIBUTION O&M COST \$(000)	(7) TOTAL AVOIDED DISTRIBUTION CAP COST \$(000)	(8) PROGRAM FUEL SAVINGS \$(000)	(9) 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	2	0	2	1	2	3	2	2
2000	3	1	4	2	3	5	7	5
2001	4	1	5	3	5	8	12	8
2002	4	1	5	3	5	8	17	10
2003	4	1	5	3	5	8	16	10
2004	4	1	5	3	5	8	15	10
2005	4	1	5	2	5	5	17	11
2006	4	1	5	2	6	8	18	11
2007	3	1	4	2	6	8	19	12
2008	3	1	4	2	6	8	20	12
2009	3	2	5	2	6	8	21	13
2010	3	2	5	2	7	9	22	13
2011	3	2	5	2	7	9	24	14
2012	3	2	5	2	7	9	25	15
2013	3	2	5	2	8	10	28	16
2014	2	2	4	2	8	10	27	16
2015	2	2	4	2	9	10	28	16
2016	2	2	4	1	9	10	30	18
2017	2	2	4	1	9	10	31	18
2018	2	2	4	1	10	11	32	19
2019	2	2	4	1	10	11	34	19
2020	2	2	4	1	11	12	35	20
2020	2	2	4	1	11	12	36	20

TOTAL	63	36	97	47	151	182	510	306
NPV	24	10	34	16	45	60	151	83

\* 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: Cot Peak Battery Charging

(1) YEAR	(2) INCREASED SUPPLY COSTS \$'(000)	(3) UTILITY PROGRAM COSTS \$'(000)	(4) PARTICIPANT PROGRAM COSTS \$'(000)	(5) OTHER COSTS \$'(000)	(6) TOTAL COF TS \$'(000)	(7) AVOIDED GEN UNIT BENEFITS \$'(000)	(8) AVOIDED T&D BENEFITS \$'(000)	(9) PROGRAM FUEL SAVINGS \$'(000)	(10) OTHER BENEFITS \$'(000)	(11) TOTAL BENEFITS \$'(000)	(12) NET BENEFITS \$'(000)	(13) CUMULATIVE DISCOUNTED NET BENEFITS \$'(000)
1996	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
1998	0	18	19	0	35	0	0	0	0	0	0	(26)
1999	0	13	17	0	30	0	5	2	0	7	7	(47)
2000	0	11	14	0	25	0	9	4	0	14	14	(53)
2001	0	0	1	0	1	23	13	7	0	42	41	(28)
2002	0	0	1	0	1	22	13	6	0	41	40	(3)
2003	0	0	1	0	1	24	13	6	0	42	41	17
2004	0	0	1	0	1	21	13	7	0	40	37	40
2005	0	0	1	0	1	21	13	7	0	41	40	55
2006	0	0	1	0	1	21	13	7	0	41	40	72
2007	0	0	1	0	1	21	13	8	0	42	41	87
2008	0	0	1	0	1	22	13	8	0	43	42	102
2009	0	0	1	0	1	20	13	8	0	42	41	115
2010	0	0	1	0	1	19	13	10	0	42	41	127
2011	0	0	1	0	1	18	14	10	0	41	40	137
2012	0	0	1	0	1	17	14	10	0	41	40	147
2013	0	0	1	0	1	16	14	11	0	41	40	156
2014	0	0	1	0	1	16	14	11	0	42	41	164
2015	0	0	1	0	1	16	14	12	0	42	41	172
2016	0	0	1	0	1	15	15	13	0	43	41	179
2017	0	0	1	0	1	15	15	13	0	43	42	186
2018	0	27	35	0	62	14	15	14	0	44	44	183
2019	0	23	30	0	53	14	16	15	0	45	45	182
2020	0	19	25	0	44	14	16	15	0	45	45	182

NCM	0	110	156	0	266	370	290	204	0	863	587
NPV	0	41	56	0	97	126	95	58	0	279	152

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

9.22 %  
3.88

PARTICIPANT COSTS AND BENEFITS  
PROGRAM METHOD SELECTED: REV\_REO  
PROGRAM NAME: Off-Peak Battery Charging

(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 O&M COSTS \$(000)	OTHER COSTS \$(000)	TOTAL COSTS \$(000)	NET BENEFITS \$(000)	CUMULATIVE DISCOUNTED NET BENEFITS \$(000)
1998	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0
1996	3	0	9	0	12	19	0	0	19	0	0
1999	8	0	8	0	16	16	0	0	17	0	0
2000	12	0	6	0	18	13	1	0	14	4	0
2001	14	0	0	0	14	0	1	0	1	13	0
2002	13	0	0	0	13	0	1	0	1	12	0
2003	13	0	0	0	13	0	1	0	1	12	0
2004	13	0	0	0	13	0	1	0	1	12	0
2005	13	0	0	0	13	0	1	0	1	12	0
2006	14	0	0	0	14	0	1	0	1	13	0
2007	14	0	0	0	14	0	1	0	1	13	0
2008	14	0	0	0	14	0	1	0	1	13	0
2009	15	0	0	0	15	0	1	0	1	14	0
2010	16	0	0	0	16	0	1	0	1	15	0
2011	16	0	0	0	16	0	1	0	1	15	0
2012	16	0	0	0	16	0	1	0	1	15	0
2013	17	0	0	0	17	0	1	0	1	16	0
2014	17	0	0	0	17	0	1	0	1	16	0
2015	17	0	0	0	17	0	1	0	1	16	0
2016	17	0	0	0	17	0	1	0	1	16	0
2017	17	0	0	0	17	0	1	0	1	16	0
2018	17	0	9	0	27	33	1	0	30	0	0
2019	18	0	8	0	26	28	1	0	30	0	0
2020	18	0	6	0	24	23	1	0	25	0	0

ROM	333	0	45	0	378	134	22	0	156	222
NPV	110	0	21	0	130	49	7	0	56	74

In Service of Gen Unit  
Discount Rate: 9.22 %  
Benefit/Cost Ratio (Col(6) / Col(10))

2001  
9.22 %  
2.32

RATE IMPACT TEST  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Cell Phone Battery Charging

(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)
1996	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
1998	0	16	9	3	0	28	1	0	0	0	1	1	(22)
1999	0	13	8	8	0	29	2	5	0	0	7	(27)	(40)
2000	0	11	6	12	0	29	4	9	0	0	14	(15)	(50)
2001	0	0	0	14	0	14	30	13	0	0	42	28	(22)
2002	0	0	0	13	0	13	28	13	0	0	41	41	(16)
2003	0	0	0	13	0	13	29	13	0	0	42	28	(1)
2004	0	0	0	13	0	13	28	13	0	0	41	27	13
2005	0	0	0	13	0	13	28	13	0	0	40	27	25
2006	0	0	0	14	0	14	28	13	0	0	41	28	37
2007	0	0	0	14	0	14	29	13	0	0	42	28	47
2008	0	0	0	14	0	14	30	13	0	0	43	29	57
2009	0	0	0	15	0	15	29	13	0	0	42	27	66
2010	0	0	0	16	0	16	29	13	0	0	42	26	74
2011	0	0	0	16	0	16	29	14	0	0	41	25	80
2012	0	0	0	16	0	16	27	14	0	0	41	24	86
2013	0	0	0	17	0	17	27	14	0	0	41	24	92
2014	0	0	0	17	0	17	27	14	0	0	42	24	97
2015	0	0	0	17	0	17	28	14	0	0	42	25	101
2016	0	0	0	17	0	17	28	15	0	0	43	25	108
2017	0	0	0	17	0	17	28	15	0	0	43	26	110
2018	0	27	9	17	0	54	29	15	0	0	44	(10)	108
2019	0	23	8	18	0	49	29	16	0	0	45	(4)	108
2020	0	19	6	18	0	43	29	16	0	0	45	2	108

NPV	0	110	45	333	0	486	574	290	0	0	863	375	
NPV	0	41	21	110	0	171	184	95	0	0	279	108	

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

8.22 %  
1.63