

STEEL  
HECTOR  
DAVIS

Steel Hector & Davis  
215 South Monroe, Suite 100  
Tallahassee, Florida 32301-1000  
904.222.2300  
904.222.8410 fax

23  
ORIGINAL  
FILE COPY

Charles A. Guyton  
904.222.2300

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

*PIT. 548-16*

**Re: Commercial/Industrial Efficient Lighting 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 Commercial/Industrial Efficient Lighting Program

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

Very truly yours,



Charles A. Guyton

CAG/ld  
encs  
FAL/19766-1

Main  
904.222.2000  
904.222.7001 fax

West Palm Beach  
561.435.1200  
561.435.1100 fax

Key West  
305.290.7222  
305.290.7211 fax

DOCUMENT NUMBER - DATE

04482 MAY-66

FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Modification of	)	Docket No.
Florida Power & Light Company's	)	
Commercial/Industrial Efficient	)	Filed: May 6, 1997
Lighting Program	)	

PETITION FOR MODIFICATION OF FLORIDA POWER & LIGHT COMPANY'S COMMERCIAL/INDUSTRIAL EFFICIENT LIGHTING 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 Commercial/Industrial Efficient Lighting Program set forth in this petition and attachments, (2) allow FPL to recover reasonable and prudent expenditures for the modified Commercial/Industrial Efficient Lighting Program, and (3) include FPL's modified Commercial/Industrial Efficient Lighting 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.	William G. Walker
Charles A. Guyton	Vice President, Regulatory Affairs
Steel Hector & Davis LLP	Florida Power & Light Company
Suite 601, 215 S. Monroe St.	9250 West Flagler Street
Tallahassee, Florida 32301	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

DOCUMENT NUMBER-DATE  
04482 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 Commercial/Industrial Efficient Lighting 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 Commercial/Industrial Efficient Lighting Program is to reduce the commercial and industrial on-peak lighting and energy usage on FPL's system. Under this program FPL provides incentives to customers (or their designees) for installation of high efficiency, cost effective lighting measures at replacement. The Commercial/Industrial Efficient Lighting Program, as FPL proposes to modify it, is more fully described in Appendix A attached to this petition.

4. The Commercial/Industrial Efficient Lighting 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 Commercial/Industrial Efficient Lighting Program will reduce cumulative summer peak demand by 17.4 mW and cumulative winter peak demand by 10.9 mW for the period 1998 through 2000. In addition, it will result in a reduction in energy consumption of 72.3 gWh by the year 2000.

5. The Commercial/Industrial Efficient Lighting 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 Commercial/Industrial Efficient Lighting Program to make the program cost-effective under current planning assumptions. To make the Commercial/Industrial Efficient Lighting Program cost-effective, FPL has lowered the incentives for eligible measures. This modification has the effect of helping the Commercial/Industrial Efficient Lighting Program to achieve a benefit/cost ratio greater than 1.0 under the RIM and Participants tests.

6. The Commercial/Industrial Efficient Lighting 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 Commercial/Industrial Efficient Lighting Program, as modified, (2) allow FPL to recover reasonable and prudent expenditures for the Commercial/Industrial Efficient Lighting Program, as modified, through FPL's ECCR clause, and (3) approve the Commercial/Industrial Efficient Lighting 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



## APPENDIX A

### COMMERCIAL / INDUSTRIAL EFFICIENT LIGHTING

#### I. Program Description

The Commercial / Industrial Efficient Lighting (CIL) Program is designed to reduce FPL's commercial and industrial on-peak lighting loads and energy usage. This program encourages eligible commercial and industrial customers to install high efficiency, cost effective lighting measures at time of replacement.

Through the CIL program, FPL will provide incentives to customers, or their designees, for the installation of cost effective, high efficiency lighting retrofit measures. The CIL participating customer will also receive any energy and operating savings derived from the installation of the higher efficiency lighting measures.

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

#### II. Summary of Program Changes

FPL's current Commercial / Industrial Efficient Lighting Program pays an average incentive of \$116 per summer peak kw reduced. Based on the latest cost-effectiveness analysis for this program, the average incentive is being reduced to a level not to exceed \$75 per kw.

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

The CIL Program will be available to commercial and industrial customers who are ready to receive service from FPL and whose facilities are a completed building for which a Certificate of Occupancy, or equivalent approval for occupancy, has been issued. Participating customers must replace existing lighting measures (measures are units of qualifying lighting technologies -- i.e., ballast's, fluorescent and H.I.D. fixtures) with higher efficiency lighting measures that meet the technical requirements, are cost effective, and reduce on-peak summer loads. For customers with facilities that have twenty (20) or less lighting fixtures (a self-contained combination of luminaire, lamp and, if necessary, ballast), all qualifying measures must be performed at the same time and included on the same application. For customers with more than twenty (20) lighting fixtures, multiple incentive applications can be submitted as long as a minimum of twenty (20) measures are installed at each application.

All proposed measures must meet minimum power quality specifications for power factor and total harmonic distortion established by FPL, which will be listed in the Program Standards. Product specific power quality ratings reflecting test results from an accredited independent testing facility must be provided. The lighting levels resulting from the installation of measures must meet or exceed standard levels recommended by the Illuminating Engineering Society of North America.

Installations can be performed by either the customer or a contractor. Installations must result in a net installed kw reduction, and the customer must provide assurance that the lighting fixtures for which lighting measures are provided an incentive will operate at some point during the hours of



3 P.M. to 6 P.M. on weekdays from April through October 31.

Incentives will be paid to customers, or their designees, and will be based upon the net installed kw reduction for specific measures. Measures will be aggregated into groups reflecting permanence and other factors, and incentives will not exceed an average of \$75 per summer peak kw reduced for all installations. Within cost effectiveness parameters, incentives will be adjusted over time in response to changing market conditions and emergence of new measures. Current incentive values will be listed in the approved Program Standards.

All installations shall be open to inspections before and after installation and prior to payment of incentives. Qualifying measures must be purchased and installed on or after the date the modified program is approved. Proof of purchase and purchase price must be provided to FPL prior to an incentive being paid.

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

The projected demand savings for the period 1998 through 2000 are 17.4 mW of summer peak demand reduction and 10.9 mW of winter peak demand reduction. In addition, the annual reduction in energy consumption by the year 2000 will be 72.3 gWh. The energy consumption and 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 Efficient Lighting Program: 2.17 Participants, 1.02 RIM, 1.79 TRC.

## **VI. Program Monitoring and Evaluation**

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

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

## Appendix B

### Cost-effectiveness Run

INPUT DATA - PART 1 CONTINUED  
PROGRAM METHOD SELECTED: REV\_REQ  
PROGRAM NAME: Commercial/Industrial Efficient Lighting

I PROGRAM DEMAND SAVINGS & LINE LOSSES

(1) CUSTOMER KW REDUCTION AT METER 0.94 KW  
 (2) GENERATOR KW REDUCTION PER CUSTOMER 1.21 KW  
 (3) KW LINE LOSS PERCENTAGE 8.32 %  
 (4) GENERATOR kWh REDUCTION PER CUSTOMER 4,488.6 kWh  
 (5) kWh LINE LOSS PERCENTAGE 8.75 %  
 (6) GROUP LINE LOSS MULTIPLIER 1.0000  
 (7) CUSTOMER kWh INCREASE AT METER 0.0 kWh

II ECONOMIC LIFE & K FACTORS

(1) STUDY PERIOD FOR THE CONSERVATION PROGRAM 25 YEARS  
 (2) GENERATOR ECONOMIC LIFE 30 YEARS  
 (3) T&D ECONOMIC LIFE 35 YEARS  
 (4) K FACTOR FOR GENERATION 1.61229  
 (5) K FACTOR FOR T & D 1.44787

III UTILITY & CUSTOMER COSTS

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

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

IV AVOIDED GENERATOR AND T&D COSTS

(1) BASE YEAR 1999  
 (2) IN-SERVICE YEAR FOR AVOIDED GENERATING UNIT 2001  
 (3) IN-SERVICE YEAR FOR AVOIDED T&D 1999-2001  
 (4) BASE YEAR AVOIDED GENERATING COST 265 \$/kW  
 (5) BASE YEAR AVOIDED TRANSMISSION COST 70 \$/kW  
 (6) BASE YEAR DISTRIBUTION COST 50 \$/kW  
 (7) GEN. TRAN & DIST COST ESCALATION RATE 2.55 %  
 (8) GENERATOR FIXED O & M COST 8 \$/kW/YR  
 (9) GENERATOR FIXED O&M ESCALATION RATE 3.34 %  
 (10) TRANSMISSION FIXED O & M COST 2.73 \$/kW  
 (11) DISTRIBUTION FIXED O & M COST 13.01 \$/kW  
 (12) T&D FIXED O&M ESCALATION RATE 3.34 %  
 (13) AVOIDED GEN UNIT VARIABLE O & M COSTS 0.030 CENTS\$/kWh  
 (14) GENERATOR VARIABLE O&M COST ESCALATION RATE 2.47 %  
 (15) GENERATOR CAPACITY FACTOR 30% (In-service year)  
 (16) AVOIDED GENERATING UNIT FUEL COST 1.89 CENTS PER kWh (In-service year)  
 (17) AVOIDED GEN UNIT FUEL COST ESCALATION RATE 5.03 %

V NON-FUEL ENERGY AND DEMAND CHARGES

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

\* INPUT DATA - PART 1 CONTINUED  
 PROGRAM METHOD SELECTED REV\_REQ  
 PROGRAM NAME Commercial/Industrial Effluent Lighting

YEAR	(1) UTILITY PROGRAM COSTS WITHOUT INCENTIVES \$(000)	(2) UTILITY INCENTIVES \$(000)	(3) OTHER UTILITY COSTS \$(000)	(4) TOTAL UTILITY PROGRAM COSTS \$(000)	(5) ENERGY CHARGE REVENUE LOSSES \$(000)	(6) DEMAND CHARGE REVENUE LOSSES \$(000)	(7) PARTICIPANT EQUIPMENT COSTS \$(000)	(8) PARTICIPANT O&M COSTS \$(000)	(9) OTHER PARTICIPANT COSTS \$(000)	(10) TOTAL PARTICIPANT COSTS \$(000)
1996	0	0	0	0	0	0	0	0	0	
1997	0	0	0	0	0	0	0	0	0	
1998	447	521	0	968	433	293	9,000	0	9,000	
1999	381	434	0	814	837	1,887	7,667	0	7,667	
2000	312	348	0	660	1,854	1,240	6,283	0	6,283	
2001	0	0	0	0	2,272	1,413	0	0	0	
2002	0	0	0	0	2,298	1,422	0	0	0	
2003	0	0	0	0	2,344	1,395	0	0	0	
2004	0	0	0	0	2,387	1,428	0	0	0	
2005	0	0	0	0	2,418	1,387	0	0	0	
2006	0	0	0	0	2,530	1,425	0	0	0	
2007	0	0	0	0	2,538	1,454	0	0	0	
2008	0	0	0	0	2,815	1,486	0	0	0	
2009	0	0	0	0	2,967	1,530	0	0	0	
2010	0	0	0	0	2,908	1,638	0	0	0	
2011	0	0	0	0	2,888	1,690	0	0	0	
2012	0	0	0	0	2,967	1,711	0	0	0	
2013	0	0	0	0	2,890	1,750	0	0	0	
2014	0	0	0	0	3,100	1,798	0	0	0	
2015	0	0	0	0	3,132	1,773	0	0	0	
2016	0	0	0	0	3,203	1,781	0	0	0	
2017	0	0	0	0	3,273	1,801	0	0	0	
2018	0	0	0	0	3,345	1,822	0	0	0	
2019	0	0	0	0	3,420	1,842	0	0	0	
2020	0	0	0	0	3,497	1,863	0	0	0	

NOM	1,140	1,302	0	2,442	60,415	34,738	22,855	0	22,855
NPV	867	1,013	0	1,880	18,447	11,406	17,847	0	17,847

\* 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 METHODO SELECTED REV\_REQ  
PROGRAM NAME Commercial/Industrial Efficient Lighting

YEAR	(2) MO-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 FIXED CHARGES \$(000)	(12) CUMULATIVE FIXED CHARGES \$(000)
2001	7,152	274	0	432	302	100	239	13	1,422	1,422	1,422
2002	6,851	262	0	471	195	100	239	108	1,377	1,261	2,683
2003	6,510	246	0	448	195	100	239	94	1,329	1,111	3,794
2004	6,163	237	0	425	195	100	239	81	1,277	960	4,774
2005	5,870	225	0	404	194	100	239	68	1,220	864	5,638
2006	5,568	213	0	383	192	100	239	56	1,164	762	6,399
2007	5,278	202	0	363	191	100	239	46	1,141	672	7,071
2008	4,998	191	0	344	188	100	239	36	1,088	582	7,653
2009	4,724	181	0	325	178	100	239	34	1,057	522	8,166
2010	4,451	170	0	308	168	100	239	34	1,016	459	8,645
2011	4,177	160	0	287	155	100	239	34	975	404	9,049
2012	3,904	149	0	268	143	100	239	34	934	354	9,402
2013	3,631	138	0	250	131	100	239	34	893	310	9,712
2014	3,358	128	0	231	119	100	239	34	852	271	9,983
2015	3,084	118	0	212	107	100	239	34	811	236	10,219
2016	2,811	108	0	193	96	100	239	34	770	205	10,424
2017	2,538	97	0	174	84	100	239	34	729	178	10,602
2018	2,264	87	0	156	72	100	239	34	688	154	10,755
2019	1,991	76	0	137	60	100	239	34	647	132	10,887
2020	1,718	66	0	118	48	100	239	34	606	113	11,001
2021	1,475	56	0	101	39	100	239	27	569	98	11,098
2022	1,292	49	0	86	31	100	239	27	542	85	11,153
2023	1,140	44	0	78	24	100	239	27	519	75	11,258
2024	988	38	0	68	18	100	239	27	496	65	11,323
2025	836	32	0	57	13	100	239	27	474	57	11,360
2026	684	26	0	47	9	100	239	27	451	50	11,429
2027	532	20	0	37	6	100	239	27	428	43	11,473
2028	380	15	0	26	4	100	239	27	405	37	11,510
2029	228	9	0	16	3	100	239	27	382	32	11,542
2030	76	3	0	5	1	100	239	27	359	28	11,570

IN SERVICE COST (\$000)  
IN SERVICE YEAR  
BOOK LIFE (YRS)  
EFFEC. TAX RATE  
DISCOUNT RATE  
OTAX & INS RATE

7,178  
2001  
30  
38.57%  
7.27%  
1.40%

CAPITAL STRUCTURE		
SOURCE	WEIGHT	COST
DEBT	45%	8.50 %
EQUITY	55%	0.00 %
C/S		12.50 %

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

1.81229

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAM METHOD SELECTED: REV\_REG  
PROGRAM NAME: Commercial/Industrial Efficient Lights

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
YEAR	TAX SCHEDULE	TAX DEPRECIATION \$ (000)	ACCUMULATED DEPRECIATION TAX \$ (000)	BOOK DEPRECIATION \$ (000)	ACCUMULATED DEPRECIATION TAX \$ (000)	BOOK FOR DEPRECIATION \$ (000)	ACCUMULATED DEPRECIATION TAX \$ (000)	DEFERRED TAX DUE TO DEPRECIATION \$ (000)	TOTAL EQUITY AFUDOC \$ (000)	BOOK DEPR RATE MINUS 15.1% \$ (000)	(10)(11) TAX RATE \$ (000)	SALVAGE TAX RATE \$ (000)	ANNUAL DEFERRED TAX (9)(12)-(13) \$ (000)	ACCUMULATED DEFERRED TAX \$ (000)
2001	3.75%	264	264	239	239	226	226	13	368	0	0	0	13	(88)
2002	7.22%	328	773	239	478	226	462	108	368	0	0	0	108	21
2003	6.68%	470	1,243	239	718	226	678	34	368	0	0	0	34	115
2004	6.18%	435	1,678	239	957	226	904	81	368	0	0	0	81	196
2005	5.71%	402	2,081	239	1,198	226	1,136	130	368	0	0	0	130	264
2006	5.29%	372	2,453	239	1,435	226	1,358	156	368	0	0	0	156	321
2007	4.89%	344	2,798	239	1,674	226	1,582	187	368	0	0	0	187	408
2008	4.52%	319	3,116	239	1,914	226	1,807	206	368	0	0	0	206	496
2009	4.18%	314	3,431	239	2,153	226	2,031	204	368	0	0	0	204	594
2010	4.46%	314	3,745	239	2,392	226	2,258	204	368	0	0	0	204	698
2011	4.46%	314	4,059	239	2,631	226	2,485	204	368	0	0	0	204	804
2012	4.46%	314	4,373	239	2,870	226	2,711	204	368	0	0	0	204	910
2013	4.46%	314	4,688	239	3,110	226	2,937	204	368	0	0	0	204	1,016
2014	4.46%	314	5,002	239	3,349	226	3,163	204	368	0	0	0	204	1,122
2015	4.46%	314	5,316	239	3,588	226	3,389	204	368	0	0	0	204	1,228
2016	4.46%	314	5,631	239	3,827	226	3,615	204	368	0	0	0	204	1,334
2017	4.46%	314	5,945	239	4,067	226	3,841	204	368	0	0	0	204	1,440
2018	4.46%	314	6,259	239	4,306	226	4,067	204	368	0	0	0	204	1,546
2019	4.46%	314	6,574	239	4,545	226	4,293	204	368	0	0	0	204	1,652
2020	4.46%	314	6,888	239	4,784	226	4,519	204	368	0	0	0	204	1,758
2021	2.22%	157	7,045	239	5,023	226	4,745	(27)	368	0	0	0	(27)	1,864
2022	0.00%	0	7,045	239	5,263	226	4,970	(87)	368	0	0	0	(87)	1,970
2023	0.00%	0	7,045	239	5,502	226	5,196	(87)	368	0	0	0	(87)	2,076
2024	0.00%	0	7,045	239	5,741	226	5,422	(87)	368	0	0	0	(87)	2,182
2025	0.00%	0	7,045	239	5,980	226	5,648	(87)	368	0	0	0	(87)	2,288
2026	0.00%	0	7,045	239	6,219	226	5,874	(87)	368	0	0	0	(87)	2,394
2027	0.00%	0	7,045	239	6,458	226	6,100	(87)	368	0	0	0	(87)	2,500
2028	0.00%	0	7,045	239	6,698	226	6,326	(87)	368	0	0	0	(87)	2,606
2029	0.00%	0	7,045	239	6,937	226	6,552	(87)	368	0	0	0	(87)	2,712
2030	0.00%	0	7,045	239	7,176	226	6,778	(87)	368	0	0	0	(87)	2,818

SALVAGE / REMOVAL COST	0.00
YEAR SALVAGE / COST OF REMOVAL	2020
DEFERRED TAXES DURING CONSTRUCTION (SEE PAGE 5)	368
TOTAL EQUITY AFUDOC CAPITALIZED (SEE PAGE 5)	3,334
BOOK DEPR RATE - MAJESTIC LIFE	3.33%

DEFERRED TAX AND MID-YEAR RATE BASE CALCULATION  
PROGRAMM METHOD SELECTED REV\_REQ  
PROGRAMM NAME Commercial/Industrial Efficient Lighting

(1) YEAR	(2) TAX DUPPLICATION SCHEDULE	(3) TAX DEPRECIATION	(4) DEFERRED TAX	(5) END OF YEAR PLANT IN SERVICE NET	(6)* ACCUMULATED DEPRECIATION	(6)* ACCUMULATED DEF TAXES	(6) BEGINNING YEAR RATE BASE	(7) ENDING OF YEAR RATE BASE	(8) MID-YEAR RATE BASE
		(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
2001	3.75%	264	13	6,837	238	188	7,279	7,025	7,152
2002	7.22%	508	109	6,088	478	21	7,025	6,877	6,851
2003	6.68%	470	84	6,458	718	115	6,877	6,343	6,510
2004	6.18%	435	81	6,218	957	198	6,343	6,023	6,183
2005	5.71%	422	68	5,980	1,196	264	6,023	5,718	5,870
2006	5.29%	372	58	5,741	1,435	321	5,718	5,420	5,568
2007	4.89%	344	48	5,502	1,674	368	5,420	5,136	5,278
2008	4.57%	319	38	5,283	1,914	402	5,136	4,881	4,998
2009	4.46%	314	34	5,023	2,153	438	4,881	4,587	4,724
2010	4.46%	314	34	4,784	2,392	470	4,587	4,314	4,451
2011	4.46%	314	34	4,545	2,631	504	4,314	4,041	4,177
2012	4.46%	314	34	4,308	2,870	538	4,041	3,787	3,904
2013	4.46%	314	34	4,067	3,110	572	3,787	3,494	3,631
2014	4.46%	314	34	3,827	3,348	606	3,494	3,221	3,358
2015	4.46%	314	34	3,588	3,588	641	3,221	2,948	3,084
2016	4.46%	314	34	3,348	3,827	675	2,948	2,674	2,811
2017	4.46%	314	34	3,110	4,067	709	2,674	2,401	2,538
2018	4.46%	314	34	2,870	4,308	743	2,401	2,128	2,264
2019	4.46%	314	34	2,631	4,545	777	2,128	1,854	1,991
2020	4.46%	314	34	2,392	4,784	811	1,854	1,581	1,718
2021	2.22%	157	(27)	1,914	5,023	784	1,581	1,308	1,475
2022	0.00%	0	(87)	1,674	5,262	897	1,308	1,210	1,292
2023	0.00%	0	(87)	1,435	5,502	810	1,210	1,064	1,140
2024	0.00%	0	(87)	1,196	5,741	523	1,064	912	988
2025	0.00%	0	(87)	957	5,980	436	912	760	836
2026	0.00%	0	(87)	718	6,218	349	760	608	684
2027	0.00%	0	(87)	478	6,458	262	608	456	532
2028	0.00%	0	(87)	238	6,697	174	456	304	380
2029	0.00%	0	(87)	(27)	6,937	87	304	152	228
2030	0.00%	0	(87)	(27)	7,176	0	152	0	78

\* Column not specified in workbook



(1)	(2)	(3)	(4)	(5)	(6)	(7)
YEAR	NO YEARS BEFORE SERVICE	PLANT ESCALATION RATE	CUMULATIVE ESCALATION FACTOR	YEARLY EXPENDITURE (%)	ANNUAL SPENDING (\$AW)	CUMULATIVE AVERAGE SPENDING (\$AW)
1996	-5	0.00%	1.000	0.00%	0.00	0.00
1997	-4	2.35%	1.026	0.00%	0.00	0.00
1998	-3	2.35%	1.052	0.00%	0.00	0.00
1999	-2	2.67%	1.080	26.77%	113.15	56.57
2000	-1	2.89%	1.111	63.23%	200.20	213.25

100.00% 313.34

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)			
YEAR	NO YEARS BEFORE SERVICE	CUMULATIVE SPENDING WITH AFLUC (\$AW)	DEBT AFLUC (\$AW)	CUMULATIVE DEBT AFLUC (\$AW)	YEARLY TOTAL AFLUC (\$AW)	CUMULATIVE TOTAL AFLUC (\$AW)	CONSTRUCTION PERIOD INTEREST (\$AW)	CUMULATIVE CFI (\$AW)	DEFERRED TAXES (\$AW)	CUMULATIVE DEFERRED TAXES (\$AW)	INCREMENTAL YEAR-END BOOK VALUE (\$AW)	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	18.53	23.34	(3.90)	(4.92)	223.77	342.97

10.36

25.83

23.34

(4.92)

342.97

	BOOK BASIS	BOOK BASIS FOR DEF TAX	TAX BASIS
CONSTRUCTION CASH	6,568	6,568	6,568
EQUITY AFLUC	308		
DEBT AFLUC	222	222	
CFI			482
TOTAL	7,178	6,778	7,042

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: Commercial/Industrial Efficient Lighting

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
YEAR	CUMULATIVE 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 W/ EFFECTIVENESS FACTOR	PROGRAM W/ EFFECTIVENESS FACTOR
1996	0	0	0.00	2.57	2.48	0.00	1.00	1.00
1997	0	0	0.00	2.58	2.48	0.00	1.00	1.00
1998	6,944	6,944	0.00	2.72	2.59	0.00	1.00	1.00
1999	12,725	12,725	0.00	2.83	2.65	0.00	1.00	1.00
2000	17,359	17,359	0.00	3.03	2.79	0.00	1.00	1.00
2001	17,359	17,359	0.00	3.35	3.03	2.28	1.00	1.00
2002	17,359	17,359	0.00	3.30	3.01	2.50	1.00	1.00
2003	17,359	17,359	0.00	3.33	3.01	2.49	1.00	1.00
2004	17,359	17,359	0.00	3.58	3.23	2.96	1.00	1.00
2005	17,359	17,359	0.00	3.73	3.36	3.22	1.00	1.00
2006	17,359	17,359	0.00	3.86	3.57	3.45	1.00	1.00
2007	17,359	17,359	0.00	4.18	3.80	3.76	1.00	1.00
2008	17,359	17,359	0.00	4.34	3.95	3.87	1.00	1.00
2009	17,359	17,359	0.00	4.58	4.11	3.83	1.00	1.00
2010	17,359	17,359	0.00	4.85	4.31	4.39	1.00	1.00
2011	17,359	17,359	0.00	5.15	4.69	4.78	1.00	1.00
2012	17,359	17,359	0.00	5.42	4.91	4.74	1.00	1.00
2013	17,359	17,359	0.00	5.62	5.04	5.02	1.00	1.00
2014	17,359	17,359	0.00	5.84	5.21	5.08	1.00	1.00
2015	17,359	17,359	0.00	6.29	5.68	5.87	1.00	1.00
2016	17,359	17,359	0.00	6.50	5.81	5.80	1.00	1.00
2017	17,359	17,359	0.00	6.70	5.95	5.95	1.00	1.00
2018	17,359	17,359	0.00	7.01	6.22	6.33	1.00	1.00
2019	17,359	17,359	0.00	7.25	6.40	6.44	1.00	1.00
2020	17,359	17,359	0.00	7.45	6.58	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 7  
 AVOIDED GENERATING BENEFITS  
 PROGRAM METHOD SELECTED REV\_REQ  
 PROGRAM NAME Commercial/Industrial Efficient Lighting

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)
1990	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	1,422	200	18	1,021	1,236	1,437
2002	1,377	209	14	812	1,028	1,385
2003	1,326	217	11	680	755	1,479
2004	1,277	227	11	748	829	1,335
2005	1,230	236	12	888	1,048	1,318
2006	1,184	246	13	1,085	1,189	1,340
2007	1,141	257	14	1,218	1,302	1,329
2008	1,089	268	14	1,279	1,389	1,391
2009	1,057	280	12	1,060	1,148	1,203
2010	1,016	292	8	821	762	1,175
2011	975	305	8	650	816	1,121
2012	934	318	14	1,224	1,444	1,047
2013	893	333	14	1,232	1,441	1,021
2014	852	348	13	1,155	1,354	1,014
2015	811	364	14	1,411	1,615	984
2016	770	380	12	1,156	1,371	948
2017	729	397	10	820	1,127	929
2018	688	413	11	1,131	1,324	909
2019	647	431	11	1,121	1,315	895
2020	606	449	11	1,053	1,250	868

HC&M	20,005	6,170	247	20,504	23,728	23,227
NPV	7,078	1,723	81	6,183	7,145	7,813

AVOIDED T&D AND PROGRAM FUEL SAVINGS  
PROGRAM METHOD SELECTED REV\_REQ  
PROGRAM NAME Commercial Efficient Lighting

(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)	(9a) PROGRAM OFF-PEAK PAYBACK \$(000)
1998	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	328	0
1995	109	25	134	71	110	182	1,871	0
2000	187	48	245	129	210	339	2,067	0
2001	264	68	332	173	298	471	2,023	0
2002	254	71	325	196	311	477	2,055	0
2003	244	74	319	160	324	484	2,211	0
2004	235	77	312	154	337	491	2,310	0
2005	228	81	307	148	352	500	2,447	0
2006	217	84	301	142	367	509	2,586	0
2007	209	88	297	137	383	520	2,686	0
2008	201	91	292	132	400	531	2,829	0
2009	193	95	288	128	417	543	3,029	0
2010	185	100	284	121	435	558	3,189	0
2011	177	104	281	116	454	570	3,377	0
2012	169	109	277	110	474	585	3,509	0
2013	161	113	274	105	496	601	3,655	0
2014	153	119	271	100	518	618	3,829	0
2015	144	124	268	95	541	636	4,074	0
2016	136	130	266	89	566	655	4,203	0
2017	128	135	263	84	591	674	4,400	0
2018	120	141	261	79	615	694	4,560	0
2019	112	147	259	74	641	715	4,683	0
2020	106	153	259	69	668	738	4,853	0
NOM	3,941	2,178	6,117	2,681	8,308	12,089	68,790	0
NPV	1,518	640	2,158	903	2,798	3,791	19,710	0

NOM	3,941	2,178	6,117	2,681	8,308	12,089	68,790	0
NPV	1,518	640	2,158	903	2,798	3,791	19,710	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 Commercial/Industrial Efficient Lighting

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
YEAR	INCREASED SUPPLY COSTS \$'(000)	UTILITY PROGRAM COSTS \$'(000)	PARTICIPANT PROGRAM COSTS \$'(000)	OTHER COSTS \$'(000)	TOTAL COSTS \$'(000)	AVOIDED GEN UNIT BENEFITS \$'(000)	AVOIDED TMD BENEFITS \$'(000)	PROGRAM FUEL SAVINGS \$'(000)	OTHER BENEFITS \$'(000)	TOTAL BENEFITS \$'(000)	NET BENEFITS \$'(000)	CUMULATIVE DISCOUNTED NET BENEFITS \$'(000)
1986	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	447	9,005	0	9,452	0	0	326	0	326	0	(8,126)
1989	0	381	7,667	0	8,048	0	318	871	0	1,289	0	(6,751)
2000	0	312	6,283	0	6,595	0	584	1,801	0	2,385	0	(4,209)
2001	0	0	0	0	0	1,427	904	2,067	0	4,397	0	(13,166)
2002	0	0	0	0	0	1,285	802	2,033	0	4,221	0	(10,680)
2003	0	0	0	0	0	1,479	802	2,055	0	4,326	0	(8,342)
2004	0	0	0	0	0	1,325	804	2,211	0	4,390	0	(8,190)
2005	0	0	0	0	0	1,318	808	2,310	0	4,435	0	(4,190)
2006	0	0	0	0	0	1,340	811	2,447	0	4,598	0	(2,289)
2007	0	0	0	0	0	1,328	817	2,586	0	4,730	0	(688)
2008	0	0	0	0	0	1,291	824	2,688	0	4,901	0	1,204
2009	0	0	0	0	0	1,283	832	2,838	0	4,963	0	2,777
2010	0	0	0	0	0	1,175	840	3,029	0	5,045	0	3,945
2011	0	0	0	0	0	1,121	850	3,199	0	5,171	0	5,621
2012	0	0	0	0	0	1,047	862	3,377	0	5,286	0	6,800
2013	0	0	0	0	0	1,021	875	3,509	0	5,415	0	8,117
2014	0	0	0	0	0	1,014	889	3,655	0	5,558	0	9,252
2015	0	0	0	0	0	964	904	3,809	0	5,818	0	10,340
2016	0	0	0	0	0	948	921	4,074	0	5,943	0	11,268
2017	0	0	0	0	0	938	938	4,203	0	6,079	0	12,311
2018	0	0	0	0	0	909	955	4,400	0	6,265	0	13,210
2019	0	0	0	0	0	895	974	4,560	0	6,429	0	14,055
2020	0	0	0	0	0	868	996	4,683	0	6,547	0	14,843

MCB	0	1,140	22,865	0	24,005	23,327	18,208	66,750	0	108,183	84,088	
NPV	0	887	17,847	0	18,733	7,918	5,947	19,710	0	33,576	14,843	

Discount Rate:  $9.22\%$   
Benefit/Cost Ratio (Col(11) / Col(6)):  $1.79$

PARTICIPANT COSTS AND BENEFITS  
PROGRAM METHOD: SELECTED REV. REQ  
PROGRAM NAME: Commercial/Efficient Lighting

(1) YEAR	(2) SAVINGS IN PARTICIPANTS BILLS \$ (000)	(3) TAX CREDITS \$ (000)	(4) UTILITY REBATES \$ (000)	(5) OTHER BENEFITS \$ (000)	(6) TOTAL BENEFITS \$ (000)	(7) CUSTOMER EQUIPMENT COSTS \$ (000)	(8) CUSTOMER O&M COSTS \$ (000)	(9) OTHER COSTS \$ (000)	(10) TOTAL COSTS \$ (000)	(11) NET BENEFITS \$ (000)	(12) CUMULATIVE DISCOUNTED NET BENEFITS \$ (000)
1986	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0
1988	878	0	521	0	1,399	9,005	0	0	9,005	(7,606)	(6,376)
1989	2,350	0	424	0	2,803	7,967	0	0	7,967	(4,864)	(8,972)
2000	3,891	0	348	0	4,279	6,293	0	0	6,293	(2,054)	(11,412)
2001	4,483	0	0	0	4,483	0	0	0	0	4,483	(6,529)
2002	4,504	0	0	0	4,504	0	0	0	0	4,504	(3,876)
2003	4,563	0	0	0	4,563	0	0	0	0	4,563	(2,616)
2004	4,640	0	0	0	4,640	0	0	0	0	4,640	(1,122)
2005	4,657	0	0	0	4,657	0	0	0	0	4,657	962
2006	4,803	0	0	0	4,803	0	0	0	0	4,803	2,969
2007	4,864	0	0	0	4,864	0	0	0	0	4,864	4,820
2008	5,021	0	0	0	5,021	0	0	0	0	5,021	6,361
2009	5,134	0	0	0	5,134	0	0	0	0	5,134	8,192
2010	5,569	0	0	0	5,569	0	0	0	0	5,569	9,810
2011	5,589	0	0	0	5,589	0	0	0	0	5,589	11,298
2012	5,721	0	0	0	5,721	0	0	0	0	5,721	12,863
2013	5,778	0	0	0	5,778	0	0	0	0	5,778	13,962
2014	5,967	0	0	0	5,967	0	0	0	0	5,967	15,205
2015	6,005	0	0	0	6,005	0	0	0	0	6,005	16,328
2016	6,108	0	0	0	6,108	0	0	0	0	6,108	17,374
2017	6,224	0	0	0	6,224	0	0	0	0	6,224	18,300
2018	6,342	0	0	0	6,342	0	0	0	0	6,342	19,200
2019	6,464	0	0	0	6,464	0	0	0	0	6,464	20,109
2020	6,589	0	0	0	6,589	0	0	0	0	6,589	20,902

MOA	116,377	0	1,302	0	117,679	22,865	0	0	22,865	94,724
NPV	37,736	0	1,013	0	38,749	17,847	0	0	17,847	20,902

In Service of Gen Line  
Discount Rate: 9.22 %  
Benefit/Cost Ratio ( Cost(5) / Cost(10) ) 2.17

DATE IMPACT TEST  
 PROGRAM METHOD SELECTED REV. REQ  
 PROGRAM NAME Commercial/Industrial Efficient Lighting

(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	447	521	726	0	1,694	228	0	0	0	326	(1,368)	(1,147)
1999	0	381	434	2,104	0	2,919	871	318	0	0	1,296	(1,632)	(2,369)
2000	0	312	348	3,194	0	3,854	1,501	584	0	0	2,186	** 622	(2,572)
2001	0	0	0	3,685	0	3,685	3,501	804	0	0	4,307	622	(2,171)
2002	0	0	0	3,698	0	3,698	3,418	802	0	0	4,221	523	(2,863)
2003	0	0	0	3,729	0	3,729	3,334	802	0	0	4,336	587	(2,541)
2004	0	0	0	3,803	0	3,803	3,546	804	0	0	4,350	546	(2,272)
2005	0	0	0	3,807	0	3,807	3,629	806	0	0	4,435	628	(1,668)
2006	0	0	0	3,824	0	3,824	3,787	811	0	0	4,598	873	(1,708)
2007	0	0	0	3,983	0	3,983	3,913	817	0	0	4,730	738	(1,430)
2008	0	0	0	4,102	0	4,102	4,078	824	0	0	4,901	800	(1,152)
2009	0	0	0	4,187	0	4,187	4,122	832	0	0	4,953	758	(912)
2010	0	0	0	4,546	0	4,546	4,205	840	0	0	5,043	699	(767)
2011	0	0	0	4,575	0	4,575	4,321	850	0	0	5,171	596	(608)
2012	0	0	0	4,678	0	4,678	4,424	862	0	0	5,236	607	(490)
2013	0	0	0	4,730	0	4,730	4,540	875	0	0	5,415	664	(308)
2014	0	0	0	4,898	0	4,898	4,699	889	0	0	5,558	660	(179)
2015	0	0	0	4,905	0	4,905	4,913	904	0	0	5,818	913	(2)
2016	0	0	0	4,983	0	4,983	5,021	921	0	0	5,943	959	162
2017	0	0	0	5,074	0	5,074	5,141	938	0	0	6,208	1,208	320
2018	0	0	0	5,167	0	5,167	5,310	955	0	0	6,265	1,098	477
2019	0	0	0	5,262	0	5,262	5,455	974	0	0	6,429	1,167	631
2020	0	0	0	5,360	0	5,360	5,551	996	0	0	6,547	1,167	774

NPV	0	1,140	1,302	95,154	0	97,593	69,878	18,208	0	0	108,183	10,391	
NPV	0	887	1,013	30,803	0	32,803	27,629	5,947	0	0	33,576	774	

Discount Rate 8.22 %  
 Benefit-Cost Ratio (Col(12) / Col(7)) 1.83