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July 16, 2002

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-VIA HAND DELIVERY-

Ms. Blanca S. Bayó
Division of the Commission Clerk
and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Re: Docket Nos. 020262-EI and 020263-EI

Dear Ms. Bayó:

On March 22, 2002, Florida Power & Light Company ("FPL") filed a Petition for Determination of Need for an Electrical Power Plant - Martin Unit 8 and a Petition for Determination of Need for an Electrical Power Plant - Manatee Unit 3. FPL's two petitions were assigned Docket Nos. 020262-EI and 020263-EI, respectively.

On April 22, 2002, FPL moved to hold both proceedings in abeyance to allow FPL to undertake a Supplemental Request for Proposals (Supplemental RFP). On April 29, 2002, FPL filed an emergency motion for waiver of Rule 25-22.080(2), F.A.C., to allow deferral of the hearing schedule if, as a result of the Supplemental RFP, Martin Unit 8 and Manatee Unit 3 were determined to be the most cost-effective alternatives to meet FPL's 2005 and 2006 need. By Order No. PSC-02-0571-PCO-EI, Commissioner Deason, acting as prehearing officer, substantially granted FPL's emergency motion to hold both proceedings in abeyance, and by Order No. PSC-02-0703-PCO-EI, the Commission granted FPL's emergency waiver of Rule 25-22.080(2).

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FPL has completed its Supplemental RFP. FPL's analysis shows that Martin Unit 8 and Manatee Unit 3 are the most cost-effective options to meet FPL's 2005 and 2006 need for capacity. Consequently, FPL is now prepared, consistent with Order Nos. PSC-02-0571-PCO-EI

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and PSC-02-0703-PCO-EI, for the Commission to proceed with its evaluation of the need for those two units in Docket Nos. 020262-EI and 020263-EI. The documents enclosed herewith, as described below, provide the information required for that evaluation.

Enclosed for filing on behalf of FPL in Docket Nos. 020262-EI and 020263-EI are the original and fifteen copies of:

- (1) FPL's Motion for Leave to Amend Petitions for Determination of Need
- (2) FPL's Amended Petition for Determination of Need for an Electrical Power Plant-Martin Unit 8
- (3) FPL's Amended Petition for Determination of Need for an Electrical Power Plant-Manatee Unit 3

Because the same analysis supported FPL's assessment of its 2005 and 2006 capacity needs and its determination that Martin Unit 8 and Manatee Unit 3 were the most cost-effective alternatives to meet the needs, FPL previously filed a motion to consolidate both dockets. Consistent with its motion to consolidate, FPL filed along with its original Need Determination petitions a single Need Study for Electrical Power Plant and a single set of Need Study Appendices, as well as a common set of testimony for both dockets. FPL continues to seek consolidation of these dockets for hearing.

In support of its amended Petitions for Determination of Need for Martin Unit 8 and Manatee Unit 3, FPL is filing the original and 15 copies of the following documents:

- (1) Need Study For Electrical Power Plant, 2005-2006
- (2) Need Study Appendices A - D
- (3) Need Study Appendices E - J
- (4) Need Study Appendices K - O
- (5) Direct Testimony of Dr. William E. Avera
- (6) Direct Testimony of C. Dennis Brandt
- (7) Direct Testimony of Moray P. Dewhurst
- (8) Direct Testimony of Leonardo E. Green
- (9) Direct Testimony of Rene Silva
- (10) Direct Testimony of Dr. Steven R. Sim

- (11) Direct Testimony of Donald R. Stillwagon
- (12) Direct Testimony of Alan S. Taylor
- (13) Direct Testimony of William L. Yeager
- (14) Direct Testimony of Gerard Yupp

These documents reflect the results of FPL's Supplemental RFP and supercede the Need Study and Appendices and its Direct Testimony filed on March 22, 2002, in support of its initial Petitions for Determination of Need. Therefore, FPL hereby withdraws the March 22 Need Study and Appendices and the March 22 Direct Testimony.

Copies of the enclosed documents, are being provided to counsel for all parties of record. Under separate cover letter, FPL is filing its confidential appendices to the Need Study and a Request for Confidential Classification for the confidential appendices.

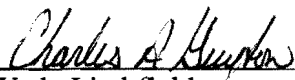
With the interruption of these proceedings for the Supplemental RFP, it is important that FPL's need determination proceedings be heard expeditiously. Prior to the Commission's granting of FPL's Emergency Motion To Hold The Proceedings In Abeyance, the parties had agreed to a schedule that would result in a hearing on October 2-4, 2002, a Commission decision on November 19, 2002, and a final order no later than December 4, 2002. FPL needs to preserve this schedule in order to meet its scheduled in-service date of June 2005 for both Martin Unit 8 and Manatee Unit 3. To facilitate this schedule, FPL has: (a) included more detailed data in the enclosed Need Study and Appendices than is required by Commission rule; (b) filed its direct testimony along with its amended petitions; (c) worked out with the intervenors free access to the primary analytical tools used in conducting the economic analysis of the Supplemental RFP; (d) agreed to a Confidentiality Agreement and process to allow intervenor access to most confidential data; and (e) agreed to expedited discovery. FPL will continue to work with the Commission and the parties to facilitate the Commission's prompt consideration of these proceedings.

Any delay in these proceedings would place at risk the in-service dates of Martin Unit 8 and Manatee Unit 3. In the event of delay, FPL would not achieve its 20 percent reserve margin criteria (or even a 15 percent reserve margin) in the summer of 2005. Without purchases of capacity to replace these facilities, an option which may not be available for the full capacity of these units, the reliability of FPL's system could be significantly adversely impacted to the detriment of FPL's customers. In the event of a delay, if FPL were to attempt to purchase capacity and energy to replace these units, FPL likely would pay higher costs than the costs it would incur if these units had met their in-service dates. Thus, delay also would adversely impact the costs paid by FPL's customers.

Because a delay would cause adverse impacts upon FPL's customers, FPL respectfully requests that these proceedings be processed according to the previously agreed schedule and that an Order on Procedure be issued. Such an order should place reasonable limits on discovery, encourage intervenors to coordinate discovery as they have previously agreed to do,

expedite discovery as previously agreed and set forth the agreed-to schedule, thereby facilitating the administration of these proceedings.

Respectfully submitted,



R. Wade Litchfield
Charles A. Guyton

Attorneys for Florida Power
& Light Company

CAG/gc
Enclosures

cc: Counsel for Parties of Record

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**BEFORE THE FLORIDA
PUBLIC SERVICE COMMISSION**

**DOCKET NOS. 020262-EI, 020263-EI
FLORIDA POWER & LIGHT COMPANY**

JULY 16, 2002

**IN RE: PETITION FOR DETERMINATION OF NEED FOR
PROPOSED ELECTRICAL POWER PLANT
IN MARTIN COUNTY
OF FLORIDA POWER & LIGHT COMPANY**

**IN RE: PETITION FOR DETERMINATION OF NEED FOR
PROPOSED ELECTRICAL POWER PLANT
IN MANATEE COUNTY
OF FLORIDA POWER & LIGHT COMPANY**

DIRECT TESTIMONY & EXHIBITS OF:

LEONARDO E. GREEN

DOCUMENT NUMBER-DATE

07394 JUL 16 8

FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **DIRECT TESTIMONY OF LEONARDO E. GREEN**

4 **DOCKET NOS. 020262-EI, 020263-EI**

5 **JULY 16, 2002**

6
7 **Q. Please state your name and business address.**

8 A. My name is Leonardo E. Green, and my business address is 9250 West
9 Flagler Street, Miami, Florida 33174.

10
11 **Q. By whom are you employed and what position do you hold?**

12 A. I am employed by Florida Power & Light Company (FPL) as the Load
13 Forecast Manager of the Resource Assessment & Planning Business Unit.

14
15 **Q. Please describe your duties and responsibilities in that position.**

16 A. I am responsible for the development of FPL's demand, energy, economics
17 and customer forecasts.

18
19 **Q. Please describe your education and professional experience.**

20 A. I received a PhD in Economics from the University of Missouri-Columbia, in
21 1983. I joined FPL in April of 1986 and in July of 1991, I became a Manager
22 of Load Forecasting within the Resource Assessment and Planning Business
23 Unit. I am responsible for coordinating the entire economics and load

DOCUMENT NUMBER-DATE

07394 JUL 16 8

FPSC-COMMISSION CLERK

1 forecasting effort for FPL. Prior to working for FPL, I worked for Seminole
2 Electric Cooperative as the Load Forecasting Supervisor in the Rates and
3 Corporate Planning Department. I have held several Assistant Professorships
4 of Economics and Statistics as well as research and teaching positions with the
5 University of Missouri, Florida International University, NOVA University,
6 and the University of South Florida.

7

8 **Q. What is the purpose of your testimony?**

9 My testimony describes FPL's load forecasting process, the underlying
10 methodologies and assumptions and the forecasts used in the Supplemental
11 Request for Proposals (Supplemental RFP) analyses.

12

13 **Q. Are you sponsoring an exhibit in this case?**

14 **A.** Yes. It consists of the following documents:

15 Document LEG-1: FPL, 2001 MIX OF REVENUE CLASSES

16 Document LEG-2: NET ENERGY FOR LOAD

17 Document LEG-3: SUMMER PEAK

18 Document LEG-4: WINTER PEAK

19 Document LEG-5: TOTAL CUSTOMERS

20 Document LEG-6: NET ENERGY FOR LOAD PER CUSTOMER

21 Document LEG-7: SUMMER PEAK PER CUSTOMER

22 Document LEG-8: WINTER PEAK PER CUSTOMER

23

1 **Q. Are you sponsoring any portion of the Need Study document and**
2 **appendices?**

3 A. Yes. I am sponsoring the load forecast portion of Section V of the Need Study
4 document and Appendix G of the Need Study.

5

6 **I. Description of FPL's Existing Customer Base**

7

8 **Q. Please describe FPL's existing service territory.**

9 A. FPL's service area covers approximately 27,650 square miles within
10 peninsular Florida, ranging from St. Johns County in the north to Miami-Dade
11 County in the south, and westward to Manatee County. FPL serves customers
12 in 35 counties within this region.

13

14 **Q. How many customers receive their electric service from FPL?**

15 A. FPL currently serves more than 4.0 million customers and a population of
16 more than 7.7 million people.

17

18 **Q. Of the approximately 4 million customers served by FPL, what is the mix**
19 **of residential, commercial and industrial customers?**

20 A. FPL's customer mix, shown on Document LEG-1, is approximately 89%
21 residential, 11% commercial, and less than one half of one percent in the
22 industrial and other categories. As a percentage of sales, residential customers
23 represent about 52% of sales, commercial customers represent 42%, and

1 industrial customers represent approximately 4% of total sales. The
2 remainder of sales comes from other consumers.

3
4 **Q. What were FPL's actual peaks and net energy for load during 2001?**

5 A. FPL experienced a record summer peak of 18,754 MW in 2001, an increase of
6 5.3% from the 2000 summer peak, as shown on Document LEG-3. The
7 winter peak for 2000/2001 was 18,199 MW, a 6.7% increase from the
8 previous year, as shown on Document LEG-4. Net Energy for Load (NEL) in
9 2001 was 98,404 GWh, an increase of 2.5% from the 2000 NEL, as shown on
10 Document LEG-2.

11
12 **II. FPL's Load Forecasting Process and Results**

13
14 **Q. Please describe FPL's process to forecast the level of energy sales.**

15 A. FPL develops econometric models to explain and predict the level of energy
16 sales. Explanatory factors, such as the weather, the price of electricity, the
17 economic conditions in Florida, the number of customers and seasonal factors,
18 are used to develop the forecast of energy sales. An econometric model is a
19 numerical representation, obtained through statistical estimation techniques,
20 of the degree of relationship between the level of energy sales and the
21 explanatory factors. A change in any of the explanatory factors will result in a
22 corresponding change in the level of energy sales. On a historical basis,

1 econometric models have proven to be highly effective in explaining changes
2 in the level of energy sales.

3
4 Predicting the level of sales in a future year first requires assumptions
5 regarding the explanatory factors. These assumptions are obtained from
6 several sources. For example, the future number of customers is based on
7 population projections produced by the University of Florida's Bureau of
8 Economic and Business Research (BEBR). The projected economic
9 conditions are secured from the economic forecasting firm Data Resources
10 Incorporated-Wharton Econometric Associates (DRI-WEFA). The weather
11 factors are obtained from the National Oceanographic and Atmospheric
12 Administration (NOAA). The price of electricity reflects the Commission's
13 approved base rates and adjustment clauses. Seasonal factors in the
14 consumption of electricity are derived from the weather seasons and the
15 population seasonal pattern. Substantial analysis is performed in order to
16 ensure that the assumptions regarding the explanatory variables are
17 reasonable. This ensures that the forecast of energy sales is both realistic and
18 rational.

19
20 The final end-use energy demand of electricity or billed energy sales is NEL-
21 adjusted for line losses and for billing cycle. The billing cycle adjustment
22 takes into account the difference between when a customer consumes
23 electricity and when the meter is read.

1 **Q. What are the primary inputs to determine the growth in energy sales?**

2 A. The growth in use of electricity comes from the overall growth in per capita
3 use of electricity by all customers, shown on Document LEG-6, and the
4 growth in the number of new customers, shown on Document LEG-5. The
5 product of per capita use multiplied by the number of customers yields the
6 NEL for a given period. The per capita use of electricity and the increased
7 numbers of new customers both are linked directly to the performance of the
8 local and national economy. When the economy is booming, use of electricity
9 increases in all sectors: residential, commercial, industrial and others. A
10 strong economy creates new jobs that attract new customers. New households
11 develop, including those of retirees from other states. However, the reverse
12 also holds. If the economy is performing poorly, customers with reduced
13 incomes are more apprehensive as to expenditures and tend to restrict their
14 consumption of goods and services. Electricity demand and sales slacken
15 when income falls. Job contractions reduce the number of new customers
16 coming to Florida seeking employment opportunities. New household
17 formations are postponed.

18
19 FPL relies on the outlook for the local and national economy produced by
20 DRI-WEFA and the population growth forecast developed by the University
21 of Florida.

22
23 **Q. What is FPL's process to forecast peak demand?**

1 A. The rate of absolute growth in FPL system load has been a function of a
2 growing customer base, weather conditions, economic growth, customer
3 behavior (including an increasing stock of electricity-consuming appliances)
4 and more efficient heating and cooling appliances. FPL developed the Peak
5 Forecast models to capture these behavioral relationships.

6
7 The summer peak forecast is developed using an econometric model. The
8 model is a per customer model that includes: the total number of FPL summer
9 customers, the price of electricity, real Florida income as an economic driver,
10 and maximum peak day temperature as a weather variable. The summer peak
11 use per customer is shown on Document LEG-7. The model is estimated
12 using an autoregressive term.

13
14 Like the system Summer Peak model, the Winter Peak model is also an
15 econometric model. The Winter Peak model is a per customer model that
16 consists of three weather-related variables: (1) the minimum temperature on
17 the peak day; (2) a weather term which is a product of heating saturation and
18 minimum winter day temperature; and (3) Heating Degree Hours from the
19 prior day until 9:00 a.m. of the peak day. In addition, the model also has an
20 economic term, Real Florida Income. An indicator variable, which is used to
21 capture the effects of larger homes being built, is multiplied by the minimum
22 temperature. The winter peak use per customer is shown on Document LEG-
23 8.

1 Monthly peaks are forecast to provide information for the scheduling of
2 maintenance for power plants and fuel budgeting. This forecasting process is
3 basically the same as for the monthly NEL forecast and consists of the
4 following actions:

- 5 - Develop the historical seasonal factor for each month by using
6 ratios of historical monthly peaks to seasonal peak (Summer =
7 April-October; Winter = November-March).
- 8 - Apply the monthly ratios to their respective seasonal peak
9 forecast to derive the peak forecast by month. This process
10 assumes that the seasonal factors remain unchanged over the
11 forecasting period.

12
13 **Q. Is FPL's need for power driven by the demand forecast, the sales**
14 **forecast, or both?**

15 A. FPL's need for resources, i.e. the amount of resources needed, is driven
16 exclusively by the peak demand forecast because FPL's needs are currently
17 determined by a reserve margin criterion. The sales forecast may have some
18 influence on the type of resource needed.

19
20 **Q. Is FPL's peak forecast, and its need for power, reduced by a short-term**
21 **economic forecast that includes recovery from a recession?**

22 A. No, not to any great degree. While an economic downturn may temporarily
23 slow customer growth and result in a permanent loss of some growth, it does

1 not permanently reduce growth rates. FPL will grow again at something
2 closer to its historical rates now that the recession has passed. Unlike sales,
3 customer usage on the day of the peak is barely influenced by other economic
4 factors such as per capita income or unemployment rates.

5
6 For example, Document LEG-6, shows in the recession between 1990 and
7 1992, energy use per customer grew at a negative rate of 0.83% annually. At
8 the same time, summer peak demand per customer grew at a positive rate of
9 0.67% annually as shown in Document LEG-7. Further, in 2001 the summer
10 peak forecast underestimated the peak forecast by 604 MW (+3.3%) while
11 energy sales were over-estimated by 1.3%.

12
13 **Q. How does FPL's projected rate of growth in peak demand compare to its**
14 **historical growth?**

15 A. They are very similar. Using summer peak as the example and shown in
16 Document LEG-3, FPL's peak demand grew from 14,661 MW in 1992 to
17 18,754 MW in 2001, a 2.8% compound annual growth rate. For the forward-
18 looking period, FPL is projecting a total peak demand of 22,687 MW by
19 summer of 2010, which is a 2.1% compound annual growth rate. In absolute
20 terms, the annual growth in summer peak between 1990 and 2001 was 444
21 MW while the projected growth between 2002 and 2011 is 435 MW annually.
22 Both periods' growths are very similar.

23

1 Looking more specifically at the growth in peak demand for the period
2 resources are needed, FPL projects a peak demand unadjusted for incremental
3 conservation or load management of 21,186 MW in 2006, which is a 2.3%
4 growth rate, slightly below FPL's historical experience since 1992. So while
5 FPL is not projecting peak demand growth as high as it experienced during
6 the booming 1990's, FPL is projecting significant peak demand growth.

7
8 **Q. Is FPL's load forecast reasonable for planning purposes?**

9 A. Yes. FPL's load forecast is based on reasonable assumptions and is consistent
10 with historical experience and methodologies previously approved by the
11 Commission.

12
13 **Q. Please summarize your testimony.**

14 A. The projected level of demand and energy is in line with the observed levels
15 of growth experienced in FPL's system. In developing this forecast, FPL
16 relied on information from dependable sources, and the models employed to
17 generate this forecast met the most stringent statistical tests used to evaluate
18 the suitability of forecasting models. FPL's forecast of demand and energy is
19 well founded and reasonable.

20
21 **Q. Does this conclude your testimony?**

22 A. Yes, it does.

FPL
2001 MIX OF REVENUE CLASSES

CUSTOMERS

	<u>Customers</u>	<u>% of System Total</u>
Residential	3,490,541	88.7%
Commercial	426,573	10.8%
Industrial	15,445	0.4%
Street & Highway	2,447	0.1%
Other	250	0.0%
Railroad & Railways	23	0.0%
Resale	3	0.0%
System Total	3,935,281	100.0%

ENERGY SALES

	<u>MWH</u>	<u>% of System Total</u>
Residential	47,587,522	52.2%
Commercial	37,960,492	41.6%
Industrial	4,090,946	4.5%
Street & Highway	419,055	0.5%
Other	67,494	0.1%
Railroad & Railways	86,221	0.1%
Resale	970,151	1.1%
System Total	91,181,881	100.0%

NET ENERGY FOR LOAD (GWH)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	2,366	3.0%
Forecast (2002 to 2011)	2,911	2.7%

History

<u>Year</u>	<u>(GWH)</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	71,029	1,017	1.5%
1991	73,160	2,132	3.0%
1992	73,097	-63	-0.1%
1993	75,774	2,677	3.7%
1994	80,376	4,601	6.1%
1995	83,961	3,585	4.5%
1996	84,671	710	0.8%
1997	86,850	2,179	2.6%
1998	92,663	5,813	6.7%
1999	91,460	-1,203	-1.3%
2000	95,989	4,529	5.0%
2001	98,404	2,415	2.5%

Forecast

2002	100,158	1,754	1.8%
2003	104,414	4,256	4.2%
2004	108,042	3,629	3.5%
2005	111,772	3,730	3.5%
2006	115,602	3,830	3.4%
2007	118,157	2,555	2.2%
2008	120,549	2,392	2.0%
2009	122,922	2,373	2.0%
2010	125,448	2,526	2.1%
2011	127,512	2,064	1.6%

SUMMER PEAK

(MW)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	444	2.9%
Forecast (2002 to 2011)	435	2.1%

History

<u>Year</u>	<u>MW</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	13,754	329	2.5%
1991	14,123	369	2.7%
1992	14,661	538	3.8%
1993	15,266	605	4.1%
1994	15,179	-87	-0.6%
1995	16,172	993	6.5%
1996	16,064	-108	-0.7%
1997	16,613	549	3.4%
1998	17,897	1,284	7.7%
1999	17,615	-282	-1.6%
2000	17,808	193	1.1%
2001	18,754	946	5.3%

Forecast

<u>Year</u>	<u>Total Load</u>	<u>Absolute Growth</u>	<u>% Growth</u>
2002	19,131	377	2.0%
2003	19,765	634	3.3%
2004	20,226	462	2.3%
2005	20,719	493	2.4%
2006	21,186	467	2.3%
2007	21,556	370	1.7%
2008	21,870	314	1.5%
2009	22,271	401	1.8%
2010	22,687	415	1.9%
2011	23,106	420	1.8%

WINTER PEAK

(MW)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	444	2.4%
Forecast (2002 to 2011)	459	2.1%

History

<u>Year</u>	<u>MW</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	13,988	1,112	8.6%
1991	11,868	-2,120	-15.2%
1992	13,319	1,451	12.2%
1993	12,964	-355	-2.7%
1994	12,594	-370	-2.9%
1995	16,563	3,969	31.5%
1996	18,096	1,533	9.3%
1997	16,490	-1,606	-8.9%
1998	13,060	-3,430	-20.8%
1999	16,802	3,742	28.7%
2000	17,057	255	1.5%
2001	18,199	1,142	6.7%

Forecast

<u>Year</u>	<u>Total Load</u>	<u>Absolute Growth</u>	<u>% Growth</u>
2002	18,968	769	4.2%
2003	19,551	582	3.1%
2004	19,976	426	2.2%
2005	20,418	441	2.2%
2006	20,854	436	2.1%
2007	21,204	350	1.7%
2008	21,538	334	1.6%
2009	21,966	427	2.0%
2010	22,366	400	1.8%
2011	22,785	419	1.9%

TOTAL CUSTOMERS

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	72,570	2.0%
Forecast (2002 to 2011)	67,571	1.6%

History

<u>Year</u>	<u>Customers</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	3,158,817	94,381	3.1%
1991	3,226,455	67,638	2.1%
1992	3,281,238	54,783	1.7%
1993	3,355,794	74,556	2.3%
1994	3,422,187	66,393	2.0%
1995	3,488,796	66,609	1.9%
1996	3,550,747	61,951	1.8%
1997	3,615,485	64,738	1.8%
1998	3,680,470	64,985	1.8%
1999	3,756,009	75,539	2.1%
2000	3,848,401	92,392	2.5%
2001	3,935,281	86,880	2.3%

Forecast

2002	4,004,161	68,880	1.8%
2003	4,079,038	74,877	1.9%
2004	4,151,237	72,199	1.8%
2005	4,225,960	74,722	1.8%
2006	4,299,491	73,532	1.7%
2007	4,365,095	65,603	1.5%
2008	4,428,309	63,214	1.4%
2009	4,490,271	61,962	1.4%
2010	4,551,096	60,825	1.4%
2011	4,610,993	59,897	1.3%

NET ENERGY FOR LOAD PER CUSTOMER
(GWH)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	182	1.0%
Forecast (2002 to 2011)	265	1.1%

History

<u>Year</u>	<u>(GWH)</u>	<u>Absolute</u> <u>Growth</u>	<u>%</u> <u>Growth</u>
1990	22,486	-340	-1.5%
1991	22,675	189	0.8%
1992	22,277	-398	-1.8%
1993	22,580	303	1.4%
1994	23,487	907	4.0%
1995	24,066	579	2.5%
1996	23,846	-220	-0.9%
1997	24,022	176	0.7%
1998	25,177	1,155	4.8%
1999	24,350	-827	-3.3%
2000	24,943	592	2.4%
2001	25,006	63	0.3%

Forecast

2002	25,013	8	0.0%
2003	25,598	584	2.3%
2004	26,027	429	1.7%
2005	26,449	422	1.6%
2006	26,887	438	1.7%
2007	27,069	181	0.7%
2008	27,222	154	0.6%
2009	27,375	153	0.6%
2010	27,564	189	0.7%
2011	27,654	90	0.3%

SUMMER PEAK PER CUSTOMER
(MW)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	0	0.8%
Forecast (2002 to 2011)	0	0.5%

History

<u>Year</u>	<u>MW</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	4	0	-0.6%
1991	4	0	0.5%
1992	4	0	2.1%
1993	5	0	1.8%
1994	4	0	-2.5%
1995	5	0	4.5%
1996	5	0	-2.4%
1997	5	0	1.6%
1998	5	0	5.8%
1999	5	0	-3.6%
2000	5	0	-1.3%
2001	5	0	3.0%

Forecast

2002	5	0	0.3%
2003	5	0	1.4%
2004	5	0	0.6%
2005	5	0	0.6%
2006	5	0	0.5%
2007	5	0	0.2%
2008	5	0	0.0%
2009	5	0	0.4%
2010	5	0	0.5%
2011	5	0	0.5%

WINTER PEAK PER CUSTOMER

(MW)

Compound Annual Average Growth Rate

	<u>Absolute</u>	<u>%</u>
History (1990 to 2001)	0	0.4%
Forecast (2002 to 2011)	0	0.5%

History

<u>Year</u>	<u>MW</u>	<u>Absolute Growth</u>	<u>% Growth</u>
1990	4	0	5.4%
1991	4	-1	-16.9%
1992	4	0	10.4%
1993	4	0	-4.8%
1994	4	0	-4.7%
1995	5	1	29.0%
1996	5	0	7.3%
1997	5	-1	-10.5%
1998	4	-1	-22.2%
1999	4	1	26.1%
2000	4	0	-0.9%
2001	5	0	4.3%

Forecast

2002	5	0	2.4%
2003	5	0	1.2%
2004	5	0	0.4%
2005	5	0	0.4%
2006	5	0	0.4%
2007	5	0	0.2%
2008	5	0	0.1%
2009	5	0	0.6%
2010	5	0	0.5%
2011	5	0	0.5%