

**BEFORE THE FLORIDA  
PUBLIC SERVICE COMMISSION**

**DOCKET NO. 06 0225-EI  
FLORIDA POWER & LIGHT COMPANY**

**IN RE: FLORIDA POWER & LIGHT COMPANY'S  
PETITION TO DETERMINE NEED FOR  
WEST COUNTY ENERGY CENTER UNITS 1 AND 2  
ELECTRICAL POWER PLANT**

**DIRECT TESTIMONY & EXHIBIT OF:**

**LEONARDO E. GREEN**

DOCUMENT NUMBER DATE

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**BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

**FLORIDA POWER & LIGHT COMPANY**

**TESTIMONY OF LEONARDO E. GREEN**

**DOCKET NO. \_\_\_\_\_-EI**

**MARCH 13, 2006**

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

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

**Q. By whom are you employed and what is your position?**

A. I am employed by Florida Power & Light Company ("FPL" or the "Company") as the Manager of Load Forecasting within the Resource Assessment & Planning Business Unit.

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

A. I am responsible for the development of FPL's peak demand, energy, economic, and customer forecasts.

**Q. Please describe your educational background and professional experience.**

A. I received a Doctor of Philosophy Degree in Economics from the University of Missouri-Columbia in 1983. Prior to joining FPL, I worked for Seminole Electric Cooperative as the Load Forecasting Supervisor in the Rates and Corporate

1 Planning Department. I joined FPL in April of 1986, as a Senior Forecasting  
2 Analyst in the Research, Economics and Forecasting Department. My  
3 responsibilities included preparation, review, and presentation of the economic,  
4 customer, and load forecasts for FPL. In August of 1986 I was promoted to  
5 Supervisor of Economics and Forecasting within the Research, Economics and  
6 Forecasting Department. In July of 1991, I became Manager of Load Forecasting  
7 within the Resource Assessment and Planning Business Unit. I am responsible  
8 for coordinating the entire economic and load forecasting effort at FPL.

9  
10 In addition, I have held several Assistant Professorships of Economics and  
11 Statistics as well as research and teaching positions with the University of  
12 Missouri, Florida International University, and the University of South Florida.

13  
14 **Q. What is the purpose of your testimony?**

15 A. My testimony describes FPL's load forecasting process, identifies the underlying  
16 methodologies and assumptions, and presents the forecasts used in the Need  
17 Study submitted by FPL in this proceeding. I will explain how these forecasts  
18 were developed and why they are reasonable forecasts.

19

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

21 A. Yes. I am sponsoring an exhibit consisting of thirteen documents, Nos. LEG-1  
22 through LEG-13, which is attached to my direct testimony.

23

1 **Q. Are you sponsoring any sections in the Need Study?**

2 A. Yes. I am sponsoring the load forecast portion of Section V and Appendix E of  
3 the Need Study. In addition, I co-sponsor Appendix C.

4

5 **DESCRIPTION OF FPL'S EXISTING CUSTOMER BASE**

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

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

11

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

13 A. FPL currently serves more than 4.3 million customers, as shown on Document  
14 LEG-1, and a population of more than 8 million people.

15

16 **Q. What were FPL's actual electrical usage peaks and net energy for load  
17 during 2005?**

18 A. FPL experienced a record summer peak of 22,361 MW in 2005. This was an  
19 increase of 8.8 percent (1,816 MW) from the 2004 summer peak, and is shown on  
20 Document LEG-2. The winter peak for 2004/2005 was only 18,108, well below  
21 the all time high winter peak of 2002/2003, which was 21,190 MW, as shown on  
22 Document LEG-4. Net Energy for Load (NEL) in 2005 was 111,301 GWH, an  
23 increase of 3.0 percent from the 2004 NEL, as shown on Document LEG-10.

## FPL'S LOAD FORECASTING PROCESS AND RESULTS

1  
2 **Q. Please describe FPL's forecasting process.**

3 A. FPL relies on econometrics as the primary tool for projecting future levels of  
4 customer growth, energy sales, and peak demand. An econometric model is a  
5 numerical representation, obtained through statistical estimation techniques, of the  
6 degree of relationship between a dependent variable, e.g., the level of energy  
7 sales, and the independent (explanatory) variables, which I describe in the  
8 following paragraph. A change in any of the independent variables will result in a  
9 corresponding change in the dependent variable. On a historical basis,  
10 econometric models have proven to be highly effective in explaining changes in  
11 the level of customer or load growth. These models have consistently been used  
12 by FPL for various planning purposes and the modeling results have been  
13 reviewed and accepted by this Commission in past regulatory proceedings.

14  
15 Predicting the level of the dependent variable in future years requires assumptions  
16 regarding the levels of the explanatory variables. Explanatory variables include  
17 assumptions on the future number of customers, projected economic conditions,  
18 weather, and the price of electricity, each of which is obtained from various  
19 sources. For example, the future number of customers is based on population  
20 projections produced by the University of Florida's Bureau of Economic and  
21 Business Research (BEBR). The projected economic conditions are secured from  
22 reputable economic forecasting firms such as Global Insight (formerly known as  
23 DRI-WEFA). The weather factors are obtained from the National Oceanographic

1 and Atmospheric Administration (NOAA). The price of electricity reflects the  
2 Commission-approved base rates and adjustment clauses. FPL performs  
3 substantial analysis to ensure that the assumptions regarding the explanatory  
4 variables are reasonable. This ensures that the forecast of customers, energy  
5 sales, and peak demand are both realistic and rational.

### 7 FPL'S CUSTOMER FORECAST

8 **Q. Please explain the development of FPL's customer growth forecast.**

9 A. The growth in customers in FPL's service territory is the primary driver of the  
10 growth in the level of energy sales and peak demand. In order to project the  
11 growth in the number of customers, FPL relies on population projections  
12 produced by BEBR. Once a year, BEBR updates its population projections for  
13 the state of Florida on a county-by-county basis. FPL's customer growth forecast  
14 is based on BEBR's population projections released in April of 2004. It does not  
15 include the potential effects of the 2004 and 2005 hurricane seasons. BEBR  
16 typically produces and releases updated population forecast for Florida in April of  
17 each year.

18  
19 **Q. What is FPL's customer growth forecast?**

20 A. FPL is projecting an annual average increase of 75,105 new customers for the  
21 next ten years as shown on Document LEG-1. The projected growth of 75,105  
22 in new customers is similar to the last ten years prior to 2004, when the forecast  
23 was developed.

1 **Q. What is BEBR's current forecast of Population?**

2 A. The most recent population forecast developed by BEBR was in April, 2005. The  
3 forecast is significantly higher than the 2004 forecast for the first three years.  
4 The growth rates in the later years then revert to the long term growth rates. This  
5 upward revision for the first few years signifies that FPL projections for early  
6 years are conservative and will be revised upwards.

7

8 **Q. In addition to population changes, what other factors are considered in  
9 projecting FPL's customer growth?**

10 A. Factors such as affordability index, job opportunities and international conflicts  
11 are also important determinants of growth in FPL's service territory. Florida is  
12 experiencing a period of extraordinary growth in population and this expansion is  
13 fueling a boom in construction of new homes to house this population. This  
14 expanded demand for housing is responsible for the recent growth in FPL's  
15 customers, but at the same time could avert future customer growth of a similar  
16 magnitude, all other factors being the same. This increased demand, coupled with  
17 low mortgage rates, has driven up the price of housing in Florida raising  
18 drastically the cost of living affordability index for Florida. This increase in the  
19 affordability index, and rising mortgage rates driven by higher inflation as a result  
20 of higher fuel prices, is limiting the potential growth in customers to a certain  
21 extent. Furthermore, high fuel prices have somewhat tempered the outlook for the  
22 national and Florida economies. This explains why projected customer growth is  
23 slightly below the customer growth experienced in recent years.

1 **Q. What is FPL's most current customer forecast?**

2 A. FPL's most current customer forecast is shown in Document LEG-13. For the  
3 years 2009 and 2010 the customer forecast is higher by 60,085 and 64,476,  
4 respectively, than the 2006 Need Determination forecast. This is a result of an  
5 updated projection of population from BEBR as well as observed recent history of  
6 customer growth in FPL service territory.

7

8 **Q. Is FPL's customer growth forecast reasonable?**

9 A. Yes. The forecast incorporates the most recent available projections made by the  
10 University of Florida at the time the forecast was developed.

11

#### 12 **FPL'S PEAK DEMAND FORECAST**

13 **Q. What is FPL's process to forecast summer peak demand?**

14 A. The rate of absolute growth in FPL system load has been a function of a larger  
15 customer base, weather conditions, continued economic growth, changing  
16 patterns of customer behavior (including an increasing stock of electricity-  
17 consuming appliances) and more efficient heating and cooling appliances. FPL  
18 developed the peak demand models to capture these behavioral relationships.

19

20 The summer peak forecast is developed using an econometric model. The model  
21 is a per-customer model that includes: the real price of electricity, Florida real  
22 personal income as an economic driver, and maximum temperature on peak day.  
23 The forecasted summer peak use per customer is shown on Document LEG-3.



1 The forecasted summer peak use per customer is multiplied by the projected total  
2 customers to derive FPL's system summer peak.

3

4 **Q. What is FPL's process to forecast winter peak demand?**

5 A. Like the system summer peak model, the winter peak model is also an  
6 econometric model. The winter peak model is a per-customer model that includes  
7 two weather-related variables: the minimum temperature on the peak day and  
8 Heating Degree Hours from the prior day until 9:00 a.m. of the peak day. In  
9 addition, the model also has an economic term, Florida real personal income. The  
10 winter peak use per customer is shown on Document LEG-5. The projected  
11 winter peak load per customer value is multiplied by the total customers to derive  
12 FPL's system winter peak.

13

14 **Q. What is FPL's process to forecast monthly peak demands?**

15 A. The forecasting process consists of the following actions:

- 16 - Development of the historical seasonal factor for each month by using  
17 ratios of historical monthly peaks to seasonal peak (Summer = April-  
18 October; Winter = November-March).
- 19 - Application of the monthly ratios to their respective seasonal peak forecast  
20 (summer and winter peaks) to derive the peak forecast by month. This  
21 process assumes that the seasonal factors remain unchanged over the  
22 forecasting period.

1 Monthly peak forecasts are used in generation planning and also provide  
2 information for the scheduling of maintenance for power plants and fuel  
3 budgeting.

4  
5 **Q. Please summarize the peak demand forecasts.**

6 A. The ten year anticipated summer peak demand is projected to grow from 21,178  
7 MW in 2006 to 26,212 MW by the year 2015 or 5,034 MW in absolute terms as  
8 shown in Document LEG-2. By the years 2009 and 2010, the summer peak  
9 should reach 22,884 MW and 23,424 MW, respectively, a growth of 1,705 MW  
10 and 2,246 MW. The winter peak grows from 21,336 MW in the winter of  
11 2005/2006 to 26,410 MW in the winter of 2014/15 or 5,074 MW in absolute  
12 terms as shown in Document LEG-4. For the winter of 2008/2009 the winter  
13 peak demand is estimated to reach 22,916 MW and for the winter of 2009/2010 it  
14 is projected to be 23,466 MW, or 1,580 MW and 2,131 MW, respectively. Both  
15 summer and winter peaks are projected to have similar growth.

16  
17 **Q. What was the growth in FPL summer peak demand in 2005?**

18 A. In 2005 FPL experienced a growth in summer peak demand of 1,816 MW, a  
19 record growth in summer peak demand, as shown in Document LEG-2.

20

21

22

1 **Q. What was the reason (s) for the extremely high growth in peak in the**  
2 **summer of 2005?**

3 A. The summer of 2005 was the hottest summer in recent history. The average  
4 summer peak day temperature in FPL's service territory, as shown on Document  
5 LEG-6, was 86.9 degrees Fahrenheit. This surpassed 1993, the prior record  
6 holder which had an average of 86.2 degrees, by 0.8 %. The summer of 2005 was  
7 also 2.6 % above the long term average of 84.7 degrees Fahrenheit. Furthermore,  
8 not only was the peak day average temperature a record but also the composite  
9 temperatures for the months of July and August registered the highest readings  
10 ever, indicating an extended period of extreme heat build-up. The combination  
11 of record average peak day temperatures and record heat build-up were the basis  
12 for the level of the demand seen on FPL's system. Customer peak demand  
13 increased by (i) 1,033 MW due to the extremely hot weather; (ii) 549 MW due to  
14 strong customer growth; and (iii) 214 MW due to the strong economy. The  
15 impact of the combined effect of the Price of electricity and other less important  
16 factors made up the remaining 20 MW.

17

18 **Q. What weather assumptions does FPL assume for the summer peak**  
19 **projections?**

20 A. In putting together the summer peak demand forecast, FPL relies on a normal  
21 weather outlook. Normal weather is defined as an average of the maximum  
22 temperatures for summer days over the years 1948-2004.

1    **Q.    How does FPL’s projected rate of growth in summer peak demand in the**  
2           **current Need Study compare to the projected rate of growth used in the 2004**  
3           **Petition to Determine Need for Turkey Point Unit 5 Electrical Power Plant?**

4    A.    The comparisons of the forecasts from the current Need Study and the 2004  
5           Determination of Need are shown in Document LEG-7. In terms of summer peak,  
6           the current forecast for the year 2009 is higher by 100 MW (0.4 percent) than  
7           what was projected in 2004 Need Hearings for the same year. The primary reason  
8           for this difference between the two forecasts of summer peak is that the customer  
9           forecast is higher as shown in Document LEG-7, resulting from BEBR updating  
10          its population forecast upwards. The full impact of the increased customers is  
11          somewhat dampened as a result of the higher price of electricity as shown in  
12          Document LEG-12.

13  
14   **Q.    How does FPL account for the observed summer peak of 2005 in FPL’s**  
15          **current summer peak outlook?**

16   A.    As mentioned earlier, the observed 2005 summer peak was primarily a result of  
17          extreme temperatures. FPL does not assume a repeat of 2005’s summer  
18          conditions as the basis for developing the most likely summer peak demand  
19          forecast. In putting together the summer peak demand forecast, FPL relies on a  
20          normal weather outlook. However, the inclusion of the more current economic  
21          outlook, higher fuel prices and revised population projections will result in higher  
22          projected peaks than shown in the 2006 Need Document.

23

1 **Q. What is FPL's most current peak forecast?**

2 A. FPL's most current forecast is shown in Document LEG-13. For the years 2009  
3 and 2010, the summer peak forecast is higher by 899 MW and 951 MW  
4 respectively. The winter peak for the same years is higher by 328 MW and 247  
5 MW respectively. This is a result of higher customers and a stronger economic  
6 outlook.

7  
8 **Q. Is FPL's need for power driven by the demand forecast, the sales forecast, or  
9 both?**

10 A. FPL's need for resources, i.e., the amount of resources needed, is driven by the  
11 peak demand forecast, because FPL's needs are currently determined by a reserve  
12 margin criterion. While FPL uses both a reserve margin and Loss of Load  
13 Probability reliability criteria, the reserve margin criterion driven by the peak load  
14 forecast has established the magnitude of the resource need for many years. This  
15 fact is addressed in the Need Study. Additionally, the sales forecast may have  
16 some influence on the type of resource needed.

17  
18 **Q. Is FPL's load forecast reasonable for planning purposes?**

19 A. Yes. FPL's load forecast is based on reasonable assumptions, is consistent with  
20 historical experience and is consistent with methodologies previously approved  
21 by the Commission.

22

23

1 **FPL'S ENERGY SALES FORECAST**

2 **Q. Please describe the process FPL used to forecast energy sales.**

3 A. The forecast of energy sales consists of three steps. First, total Net Energy for  
4 Load (NEL), which is energy generated net of plant use, is projected. A more  
5 reliable econometric forecasting model is obtained for NEL, instead of billed  
6 energy sales, since the explanatory variables can be better matched to usage. This  
7 is so because the NEL data does not have to be attuned to account for billing cycle  
8 adjustments, which might distort the real time match between the production and  
9 consumption of electricity.

10  
11 Next, a line loss factor and a billing cycle adjustment are applied to the NEL to  
12 arrive at total use of electricity by the customer. Finally, revenue class models are  
13 developed to distribute the forecast of total end-use sales of electricity to the  
14 different revenue classes (residential, commercial, industrial, etc.).

15  
16 To project energy sales by revenue class, separate models for the residential,  
17 commercial, and industrial revenue classes are developed. These revenue class  
18 models are developed to obtain an objective allocation of the total energy sales  
19 among FPL's different revenue classes. The sum of the sales for all revenue  
20 classes will result in total energy sales. The energy sales for each revenue class  
21 are then adjusted to reflect the total energy sales derived from the NEL model.

22

23

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

2 A. The growth in energy sales comes from the overall growth in the number of new  
3 customers as shown on Document LEG-1 and use per customer as shown on  
4 Document LEG-9. The product of per capita use and the number of customers  
5 yields the NEL for a given period as shown in Document LEG-10. The per capita  
6 use of electricity and the increased number of new customers are both linked  
7 directly to the performance of the local and national economy. When the economy  
8 is booming, the use of electricity increases in all sectors: residential, commercial,  
9 industrial, etc. A strong economy creates new jobs that attract new customers.  
10 Under these conditions, new households develop, including those of retirees from  
11 other states. However, the reverse also holds true. If the economy is performing  
12 poorly, customers with reduced incomes are more apprehensive as to expenditures  
13 and tend to restrict their consumption of goods and services. Electricity demand  
14 and sales slacken when incomes fall. Job contractions reduce the number of new  
15 customers coming to Florida seeking employment opportunities, and new  
16 household formations are postponed. FPL relies on the outlook for the state and  
17 national economy produced by Global Insight.

18  
19 **Q. What were the basic economic assumptions included in the forecast?**

20 A. The energy sales forecast was produced in October of 2004, shortly after the 2004  
21 hurricanes impacted FPL's service territory. Florida's economy has continued to  
22 grow at a strong pace, and although the 2004 hurricanes were a setback, the  
23 economy is expected to bounce back strongly. According to Global Insight's 2004

1 Fourth Quarter Outlook, the “Florida economy will remain a job leader in the  
2 years ahead.” The strong population growth is largely due to baby boomers  
3 approaching retirement and the availability of jobs. Florida has been  
4 outperforming the national economy as shown in Document LEG-11, and that  
5 pattern is projected to continue. The strong population growth will result in  
6 increased demand for various services and new homes; thus, these two sectors are  
7 leading the growth for Florida’s economy. This forecast also reflects that, as a  
8 consequence of the hurricanes in 2004, there will be substantial reconstruction  
9 activity and infusion of insurance funds into the local economy. Furthermore, the  
10 reconstruction activity fuels the manufacturing sector to service this  
11 reconstruction with construction material, furniture and transportation equipment.

12  
13 **Q. What is the price of electricity assumed in the forecast?**

14 A. The real price of electricity assumed is shown in Document LEG-12. The forecast  
15 is higher than the forecast used in the 2004 Need Determination. The real price of  
16 electricity is substantially higher in the early part of the year but the difference  
17 steadily declines thereafter.

18  
19 **Q. What is FPL’s energy sales forecast?**

20 A. In 2006, FPL’s energy use per customer is projected to be 2.5% above 2005, with  
21 an increase of 1.6% in 2007, and 1.5% in 2008, as shown in Document LEG-9.  
22 The longer term compound annual average growth in use per customer is  
23 projected to be 0.9% annually after 2007. Customer growth is projected at 1.2%



1 for 2006, 1.8% for 2007 and 2008 and then average 1.6% for the next ten years.  
2 Combining the energy use per customer and the growth in customers, yields a  
3 growth in energy sales estimated at 3.7% in 2006, 3.5% in 2007, and 3.3% in  
4 2008, and then an average of 2.4% for the next ten years, as shown in Document  
5 LEG-10.

6

7 **Q. What is FPL's most current energy forecast?**

8 A. FPL's most current forecast is shown in Document LEG-13. For the years 2009  
9 and 2010 the current forecast for Net Energy for Load is higher by 0.5% and 1.2%  
10 respectively over the 2006 Need Determination forecast. This is a result of more  
11 customers and a better economic outlook.

12

13 **Q. Is FPL's forecast of energy sales reasonable?**

14 A. Yes. A forecast is considered reasonable if good judgment is used in estimating  
15 (availing oneself of the appropriate and most credible assumptions on hand) and  
16 testing the model and if the results or outputs make sense when compared to prior  
17 similar situations. FPL followed this approach in preparing the forecast.

18

19 The models employed by FPL have good descriptive statistics with high degrees  
20 of statistical significance. FPL is confident that the relationship that exists  
21 between the level of energy sales and the economy, weather, customers, price of  
22 electricity, and other variables has been properly assessed and numerically  
23 quantified.

1 **Q. Please summarize your testimony.**

2 A. My testimony addresses FPL's peak demand forecasts, the energy sales forecast  
3 and the customer forecast. I have explained how these forecasts are developed  
4 and why they are reasonable forecasts. My testimony also demonstrates that peak  
5 demand will continue to show strong growth in both summer and winter peaks.  
6 FPL is expected to add over the next ten years approximately 5,034 MW of  
7 summer peak demand and 5,074 MW of winter peak demand. My testimony also  
8 shows that FPL is projecting continued strong customer growth in the next ten  
9 years, and for energy sales to increase by 3.7% in 2006, 3.5% in 2007 and 3.3% in  
10 2008. Over the longer-term, 2009 to 2015, the annual average growth rate in  
11 sales is estimated to be about 2.3%.

12

13 **Q. Does this conclude your direct testimony?**

14 A. Yes.

## TOTAL AVERAGE CUSTOMERS

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### AVERAGE ANNUAL GROWTH

HISTORY (1996 to 2005)	83,310	2.2%
FORECAST (2006 to 2015)	75,105	1.7%

### HISTORY

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			GROWTH
			ABSOLUTE                      %
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	3,848,350	92,341	2.5%
2001	3,935,281	86,931	2.3%
2002	4,019,805	84,523	2.1%
2003	4,117,221	97,416	2.4%
2004	4,224,509	107,289	2.6%
2005	4,321,895	97,386	2.3%

### FORECAST

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			GROWTH
			ABSOLUTE                      %
2006	4,371,957	50,062	1.2%
2007	4,451,957	80,000	1.8%
2008	4,530,979	79,022	1.8%
2009	4,609,035	78,057	1.7%
2010	4,686,707	77,672	1.7%
2011	4,764,184	77,476	1.7%
2012	4,841,299	77,115	1.6%
2013	4,918,337	77,038	1.6%
2014	4,995,720	77,383	1.6%
2015	5,072,944	77,224	1.5%

## SUMMER PEAK LOAD (MW)

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### AVERAGE ANNUAL GROWTH

HISTORY (1996 to 2005)	619	3.7%
FORECAST (2006 to 2015)	385	2.4%

### HISTORY

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		ABSOLUTE	GROWTH %
1996	16,064	-108	-0.7%
1997	16,613	549	3.4%
1998	17,897	1,284	7.7%
1999	18,040	143	0.8%
2000	18,086	46	0.3%
2001	18,754	668	3.7%
2002	19,219	465	2.5%
2003	19,668	449	2.3%
2004	20,545	877	4.5%
2005	22,361	1,816	8.8%

### FORECAST

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		ABSOLUTE	GROWTH %
2006	21,178	-1,183	-5.3%
2007	21,769	591	2.8%
2008	22,306	537	2.5%
2009	22,884	578	2.6%
2010	23,424	540	2.4%
2011	23,964	540	2.3%
2012	24,516	552	2.3%
2013	25,059	543	2.2%
2014	25,633	574	2.3%
2015	26,212	579	2.3%

**SUMMER PEAK LOAD PER CUSTOMER (KW)**

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**AVERAGE ANNUAL GROWTH**

HISTORY (1996 to 2005)	0.05	1.4%
FORECAST (2006 to 2015)	0.00	0.7%

**HISTORY**

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		GROWTH	
		ABSOLUTE	%
1996	4.54	(0.10)	-2.1%
1997	4.60	0.06	1.4%
1998	4.88	0.27	5.9%
1999	4.80	-0.07	-1.5%
2000	4.70	-0.11	-2.2%
2001	4.76	0.06	1.4%
2002	4.77	0.01	0.3%
2003	4.78	0.01	0.1%
2004	4.85	0.07	1.5%
2005	5.15	0.30	6.2%

**FORECAST**

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		GROWTH	
		ABSOLUTE	%
2006	4.84	(0.31)	-6.0%
2007	4.89	0.05	0.9%
2008	4.92	0.03	0.7%
2009	4.97	0.04	0.9%
2010	5.00	0.03	0.7%
2011	5.03	0.03	0.6%
2012	5.06	0.03	0.7%
2013	5.10	0.03	0.6%
2014	5.13	0.04	0.7%
2015	5.17	0.04	0.7%

## WINTER PEAK LOAD (MW)

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### AVERAGE ANNUAL GROWTH

HISTORY (1996 to 2005)	155	-0.1%
FORECAST (2006 to 2015)	830	2.4%

### HISTORY

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		ABSOLUTE	GROWTH %
1996	18,252	1,689	10.2%
1997	16,490	-1,762	-9.7%
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%
2002	17,597	-602	-3.3%
2003	20,190	2,593	14.7%
2004	14,752	-5,438	-26.9%
2005	18,108	3,356	22.7%

### FORECAST

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		ABSOLUTE	GROWTH %
2006	21,336	3,228	17.8%
2007	21,898	563	2.6%
2008	22,369	471	2.2%
2009	22,916	547	2.4%
2010	23,466	550	2.4%
2011	24,035	569	2.4%
2012	24,608	573	2.4%
2013	25,197	588	2.4%
2014	25,798	601	2.4%
2015	26,410	612	2.4%

**WINTER PEAK LOAD PER CUSTOMER (KW)**

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**AVERAGE ANNUAL GROWTH**

HISTORY (1996 to 2005)	-0.05	-2.1%
FORECAST (2006 to 2015)	0.09	0.7%

**HISTORY**

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		GROWTH	
		ABSOLUTE	%
1996	5.14	0.39	8.3%
1997	4.78	-0.36	-6.9%
1998	3.55	-1.24	-25.8%
1999	4.47	0.92	26.1%
2000	4.43	-0.04	-0.9%
2001	4.62	0.19	4.3%
2002	4.38	-0.25	-5.3%
2003	4.90	0.53	12.0%
2004	3.49	-1.41	-28.8%
2005	4.26	0.76	21.9%

**FORECAST**

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		GROWTH	
		ABSOLUTE	%
2006	4.88	0.62	14.6%
2007	4.92	0.04	0.8%
2008	4.94	0.02	0.4%
2009	4.97	0.03	0.7%
2010	5.01	0.04	0.7%
2011	5.05	0.04	0.8%
2012	5.08	0.04	0.8%
2013	5.12	0.04	0.8%
2014	5.16	0.04	0.8%
2015	5.21	0.04	0.8%

### Summer Peak Weather

<u>Year</u>	<u>Average Temperature</u>	<u>Sum of Cooling Degree Hours</u>
1985	84.5	1,020
1986	83.1	1,053
1987	85.7	1,228
1988	83.9	1,065
1989	85.0	1,164
1990	84.5	1,176
1991	84.7	1,129
1992	84.9	1,135
1993	86.2	1,279
1994	84.9	987
1995	84.5	1,013
1996	84.4	1,147
1997	84.8	1,136
1998	86.0	1,227
1999	83.1	1,196
2000	83.0	1,122
2001	84.5	1,141
2002	83.3	1,115
2003	84.1	1,133
2004	84.4	1,065
2005	86.9	1,257



**COMPARISON OF 2004 and 2006 NEED DETERMINATION****FORECAST****Summer Peak Forecast**

Exhibit No. \_\_\_\_\_

Document No. LEG-7

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	MW			
	2004 Need	2006 Need	Absolute	Percent
	Determination	Determination		
	Forecast	Forecast	Difference	Difference
2006	21,331	21,178	-153	-0.7%
2007	21,851	21,769	-82	-0.4%
2008	22,289	22,306	17	0.1%
2009	22,784	22,884	100	0.4%
2010	23,294	23,424	130	0.6%
2011	23,783	23,964	181	0.8%
2012	24,279	24,516	237	1.0%
2013	24,784	25,059	275	1.1%

**Winter Peak Forecast**

	MW			
	2004 Need	2006 Need	Absolute	Percent
	Determination	Determination		
	Forecast	Forecast	Difference	Difference
2006	21,100	21,336	236	1.1%
2007	21,605	21,898	293	1.4%
2008	22,046	22,369	323	1.5%
2009	22,539	22,916	377	1.7%
2010	23,026	23,466	440	1.9%
2011	23,522	24,035	513	2.2%
2012	24,024	24,608	584	2.4%
2013	24,535	25,197	662	2.7%

**Net Energy For Load Forecast**

	GWH			
	2004 Need	2006 Need	Absolute	Percent
	Determination	Determination		
	Forecast	Forecast	Difference	Difference
2006	115,942	115,463	-479	-0.4%
2007	118,430	119,477	1,047	0.9%
2008	120,899	123,459	2,560	2.1%
2009	123,115	127,521	4,406	3.6%
2010	125,811	130,980	5,169	4.1%
2011	128,327	133,674	5,347	4.2%
2012	130,724	136,387	5,663	4.3%
2013	133,274	139,429	6,155	4.6%

**Total Customer Forecast**

	2004 Need	2006 Need	Absolute	Percent
	Determination	Determination		
	Forecast	Forecast	Difference	Difference
2006	4,315,007	4,371,957	56,950	1.3%
2007	4,385,245	4,451,957	66,712	1.5%
2008	4,455,713	4,530,979	75,266	1.7%
2009	4,521,322	4,609,035	87,713	1.9%
2010	4,587,137	4,686,707	99,570	2.2%
2011	4,652,864	4,764,184	111,320	2.4%
2012	4,717,877	4,841,299	123,422	2.6%
2013	4,782,747	4,918,337	135,590	2.8%

## Comparison of Global Insight's Forecasts of Florida Real Personal Income

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Year	2004 Need Determination Forecast	2006 Need Determination Forecast
	% Growth	% Growth
2004	2.5%	3.5%
2005	2.7%	4.3%
2006	3.5%	4.4%
2007	3.7%	4.0%
2008	3.7%	3.5%
2009	3.7%	3.4%
2010	3.8%	3.2%
2011	3.9%	3.3%
2012	4.3%	3.3%
2013	4.8%	3.3%
2014	4.7%	3.3%
2015	3.7%	3.3%
AVERAGES	3.7%	3.6%

**NET ENERGY FOR LOAD USE PER CUSTOMER (KWH)**

**AVERAGE ANNUAL GROWTH**

HISTORY (1996 to 2005)	169	0.8%
FORECAST (2006 to 2015)	318	1.2%

**HISTORY**

		GROWTH	
		ABSOLUTE	%
1996	23,937	-129	-0.5%
1997	24,022	86	0.4%
1998	25,177	1,155	4.8%
1999	24,350	-827	-3.3%
2000	24,943	593	2.4%
2001	25,006	63	0.3%
2002	25,907	901	3.6%
2003	26,326	418	1.6%
2004	25,587	-738	-2.8%
2005	25,759	172	0.7%

**FORECAST**

		GROWTH	
		ABSOLUTE	%
2006	26,410	651	2.5%
2007	26,837	427	1.6%
2008	27,248	411	1.5%
2009	27,668	420	1.5%
2010	27,947	279	1.0%
2011	28,058	111	0.4%
2012	28,172	113	0.4%
2013	28,349	177	0.6%
2014	28,563	214	0.8%
2015	28,765	202	0.7%

**NET ENERGY FOR LOAD (GWH)**

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**AVERAGE ANNUAL GROWTH**

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HISTORY (1996 to 2005)	2,737	3.0%
FORECAST (2006 to 2015)	3,462	2.6%

**HISTORY**

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		GROWTH	
		ABSOLUTE	%
	45,342		
1996	84,993	1,032	1.2%
1997	86,852	1,859	2.2%
1998	92,663	5,811	6.7%
1999	91,460	-1,203	-1.3%
2000	95,989	4,529	5.0%
2001	98,404	2,415	2.5%
2002	104,141	5,737	5.8%
2003	108,388	4,247	4.1%
2004	108,093	-294	-0.3%
2005	111,301	3,235	3.0%

**FORECAST**

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		GROWTH	
		ABSOLUTE	%
2006	115,463	4,162	3.7%
2007	119,477	4,015	3.5%
2008	123,459	3,982	3.3%
2009	127,521	4,062	3.3%
2010	130,980	3,459	2.7%
2011	133,674	2,695	2.1%
2012	136,387	2,713	2.0%
2013	139,429	3,042	2.2%
2014	142,692	3,263	2.3%
2015	145,925	3,233	2.3%

**NON-AGRICULTURAL EMPLOYMENT**

All Employees, In Thousands  
 (Seasonally Adjusted)

**US**

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
Annual Absolute Growth	131,791	131,833	130,345	129,999	131,435	133,463
Annual Percent Growth	2.798	41	-1,487	-347	1,436	2,028
	2.2%	0.0%	-1.1%	-0.3%	1.1%	1.5%

  

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
<b>2005</b>	132,471	132,736	132,876	133,104	133,210	133,376	133,617	133,792	133,840	133,877	134,231	134,371
Annual Absolute Growth	2,099	2,270	2,090	1,981	1,837	1,897	2,055	2,042	1,960	1,715	1,937	1,922
Annual Percent Growth	1.6%	1.7%	1.6%	1.5%	1.4%	1.4%	1.6%	1.5%	1.5%	1.3%	1.5%	1.5%

**FLORIDA**

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
Annual Absolute Growth	7,080	7,171	7,180	7,261	7,504	7,752
Annual Percent Growth	254	91	9	81	243	248
	3.7%	3.7%	1.3%	0.1%	3.3%	3.3%

  

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
<b>2005</b>	7,644	7,663	7,680	7,699	7,713	7,724	7,771	7,788	7,818	7,823	7,841	7,857
Annual Absolute Growth	257.8	258.6	259.6	223.3	229.1	220.8	247.5	260.6	289.8	262.3	255.0	248.1
Annual Percent Growth	3.5%	3.5%	3.5%	3.0%	3.1%	2.9%	3.3%	3.5%	3.8%	3.5%	3.4%	3.3%

**COMPARISON OF 2004 and 2006 NEED DETERMINATION  
FORECAST  
REAL PRICE OF ELECTRICITY (Cents/KWH)**

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	(Cents/KWH)			
	2004 Need Determination Forecast	2006 Need Determination Forecast	Absolute Difference	Percent Difference
2006	3.48	4.50	1.03	29.6%
2007	3.37	4.34	0.96	28.5%
2008	3.32	4.12	0.80	24.1%
2009	3.26	3.98	0.72	22.2%
2010	3.18	3.90	0.72	22.6%
2011	3.18	3.84	0.66	20.7%
2012	3.18	3.77	0.59	18.7%
2013	3.18	3.73	0.55	17.3%

**COMPARISON OF 2006 NEED DETERMINATION &  
CURRENT FORECAST  
Summer Peak Forecast**

Exhibit No. \_\_\_\_\_  
Document No. LEG-13  
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MW

	2006 Need Determination Forecast	Current Forecast	Absolute Difference	Percent Difference
2006	21,178	21,916	737	3.5%
2007	21,769	22,543	774	3.6%
2008	22,306	23,179	873	3.9%
2009	22,884	23,782	899	3.9%
2010	23,424	24,375	951	4.1%
2011	23,964	24,915	951	4.0%
2012	24,516	25,474	958	3.9%
2013	25,059	26,079	1,020	4.1%

**Winter Peak Forecast**

MW

	2006 Need Determination Forecast	Current Forecast	Absolute Difference	Percent Difference
2006	21,336	21,792	456	2.1%
2007	21,898	22,294	396	1.8%
2008	22,369	22,753	384	1.7%
2009	22,916	23,245	328	1.4%
2010	23,466	23,714	247	1.1%
2011	24,035	24,155	119	0.5%
2012	24,608	24,597	-12	0.0%
2013	25,197	25,061	-135	-0.5%

**Net Energy For Load Forecast**

GWH

	2006 Need Determination Forecast	Current Forecast	Absolute Difference	Percent Difference
2006	115,463	114,965	-497	-0.4%
2007	119,477	118,820	-658	-0.6%
2008	123,459	123,720	261	0.2%
2009	127,521	128,211	690	0.5%
2010	130,980	132,519	1,539	1.2%
2011	133,674	135,540	1,866	1.4%
2012	136,387	138,666	2,279	1.7%
2013	139,429	141,993	2,564	1.8%

**Total Customer Forecast**

	2006 Need Determination Forecast	Current Forecast	Absolute Difference	Percent Difference
2006	4,371,957	4,416,737	44,780	1.0%
2007	4,451,957	4,501,569	49,611	1.1%
2008	4,530,979	4,586,391	55,412	1.2%
2009	4,609,035	4,669,120	60,085	1.3%
2010	4,686,707	4,751,183	64,476	1.4%
2011	4,764,184	4,830,124	65,940	1.4%
2012	4,841,299	4,906,292	64,994	1.3%
2013	4,918,337	4,981,014	62,677	1.3%