

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

**DOCKET NO. 070650 -EI
FLORIDA POWER & LIGHT COMPANY**

**IN RE: FLORIDA POWER & LIGHT COMPANY'S
PETITION TO DETERMINE NEED FOR
TURKEY POINT NUCLEAR UNITS 6 AND 7
ELECTRICAL POWER PLANT**

DIRECT TESTIMONY & EXHIBITS OF:

LEONARDO E. GREEN

DOCUMENT NUMBER-DATE

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FPSC-COMMISSION CLERK

1 **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

2 **FLORIDA POWER & LIGHT COMPANY**

3 **TESTIMONY OF LEONARDO E. GREEN**

4 **DOCKET NO. 07____-EI**

5 **OCTOBER 16, 2007**

6

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

8 A. My name is Leonardo E. Green, and my business address is 1601 Bryan Street,
9 Dallas, Texas 75201.

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

11 A. I am employed by Texas Utilities Energy (TXU) as the Senior Director of
12 Finance.

13 **Q. When did you begin your current position?**

14 A. I began my current position with TXU on October 1, 2007.

15 **Q. In what capacity are you sponsoring testimony for Florida Power & Light
16 Company (FPL) in this proceeding?**

17 A. I am sponsoring testimony for FPL as its former Manager of Load Forecasting
18 within the Finance Business Unit. I left that position in September of 2007. I
19 prepared FPL's load forecast and the other information that I sponsor in this
20 proceeding prior to leaving FPL.

21 **Q. Please describe your duties and responsibilities as FPL's Manager of Load
22 Forecasting.**

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

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

4 A. I earned a Doctor of Philosophy Degree in Economics from the University of
5 Missouri-Columbia in 1983. Prior to joining FPL, I was employed by Seminole
6 Electric Cooperative as the Load Forecasting Supervisor in the Rates and
7 Corporate Planning Department. In April of 1986, I joined FPL's Research,
8 Economics and Forecasting Department, as a Senior Forecasting Analyst. My
9 responsibilities included preparation, review, and presentation of the economic,
10 customer, and load forecasts for FPL. In August of 1986, I was promoted to
11 Supervisor of Economics and Forecasting within the Research, Economics and
12 Forecasting Department. In 1991, I became Manager of Load Forecasting within
13 the Resource Assessment and Planning Business Unit. I am responsible for
14 coordinating the entire economic and load forecasting effort at FPL.

15
16 In addition, I have held several Assistant Professorships of Economics and
17 Statistics as well as research and teaching positions with the University of
18 Missouri, Florida International University, and the University of South Florida.

19 **Q. Are you sponsoring any exhibits in this case?**

20 A. Yes. I am sponsoring Exhibits LEG-1 through LEG-12, which are attached to my
21 direct testimony.

22 Exhibit LEG-1 Total Average Customers

23 Exhibit LEG-2 Summer Peak Load Per Customer

| | | |
|----|----------------|---|
| 1 | Exhibit LEG-3 | Summer Peak Load |
| 2 | Exhibit LEG-4 | Winter Peak Load Per Customer |
| 3 | Exhibit LEG-5 | Winter Peak Load |
| 4 | Exhibit LEG-6 | Summer Peak Weather |
| 5 | Exhibit LEG-7 | Florida Real Personal Income |
| 6 | Exhibit LEG-8 | Net Energy for Load Use Per Customer |
| 7 | Exhibit LEG-9 | Net Energy for Load |
| 8 | Exhibit LEG-10 | Non-Agricultural Employment |
| 9 | Exhibit LEG-11 | Real Price of Electricity |
| 10 | Exhibit LEG-12 | Impact of the 2005 Energy Policy Act Adjustment |

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

12 A. Yes. I am sponsoring the load forecast portion of Section V.A.1 and Appendix D
13 of the Need Study. I am also co-sponsoring Appendix C.

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

15 A. The purpose of my testimony is to describe FPL's load forecasting process,
16 identify the underlying methodologies and assumptions, and present the forecasts
17 used in the Need Study submitted by FPL in this proceeding. I will also explain
18 how these forecasts were developed and why they are reasonable.

19 **Q. Please summarize your testimony.**

20 A. My testimony addresses FPL's summer and winter peak demand forecasts, the
21 energy sales forecast and the customer forecast. I explain how these forecasts are
22 developed and why they are reasonable. My testimony also demonstrates that
23 peak demand will continue to show strong growth in both summer and winter

1 peaks. FPL is expected to add approximately 8,272 MW of summer peak demand
2 and 9,626 MW of winter peak demand between 2006 and 2020. My testimony
3 also shows that FPL is projecting continued strong customer growth in the next
4 fifteen years, and for energy sales to increase by 3.9% in 2007, and 3.8% in 2008.
5 Over the longer-term, 2009 to 2020, the annual average growth rate in sales is
6 estimated to be approximately 2.9%.

7
8 **DESCRIPTION OF FPL'S EXISTING CUSTOMER BASE**

9
10 **Q. Please describe FPL's service territory.**

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

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

16 A. FPL currently serves more than 4.49 million customers, as shown on Exhibit
17 LEG-1, and a population of more than 8 million people.

18
19 **FPL'S LOAD FORECASTING PROCESS AND RESULTS**

20
21 **Q. Please describe FPL's forecasting process.**

22 A. FPL relies on econometrics as the primary tool for projecting future levels of
23 customer growth, energy sales, and peak demand. An econometric model is a

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

10
11 Predicting the level of the dependent variable in future years requires assumptions
12 regarding the levels of the explanatory variables. Explanatory variables include
13 assumptions on the future number of customers, projected economic conditions,
14 weather, and the price of electricity, each of which is obtained from various
15 sources. For example, the future number of customers is based on population
16 projections produced by the University of Florida's Bureau of Economic and
17 Business Research (BEBR). The projected economic conditions are secured from
18 reputable economic forecasting firms such as Global Insight (formerly known as
19 DRI-WEFA). The weather factors are obtained from the National Oceanographic
20 and Atmospheric Administration (NOAA). The price of electricity reflects the
21 Commission-approved base rates and adjustment clauses.

1 **Q. Does FPL assess the reasonableness of the explanatory variables?**

2 A. Yes. FPL has reviewed and assessed the assumptions regarding the explanatory
3 variables and has concluded they are reasonable. This ensures that the forecast of
4 customers, energy sales, and peak demand are both realistic and rational. A
5 comparison of the historical growth in Real Personal Income for Florida
6 corresponding to different periods with Global Insight's projected Real Personal
7 Income is shown on Exhibit LEG-8. The comparison clearly indicates that Global
8 Insight's forecast of Florida Real Personal Income for the period between 2006 to
9 2008 may not be in line with history. Based on this analysis, FPL concluded that
10 the projected growth in Real Personal Income for Florida produced by Global
11 Insight was overly optimistic and would lead to incremental needs in capacity that
12 may not be realistic. To account for this fact, in preparing this load forecast FPL
13 used an annual growth in real personal income for Florida similar to the growth
14 observed during the last five years, which averaged 3.2% per year.

15

16 **FPL'S CUSTOMER GROWTH FORECAST**

17

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

19 A. The growth in customers in FPL's service territory is the primary driver of the
20 growth in the level of energy sales and peak demand. In order to project the
21 growth in the number of customers, FPL relies on population projections
22 produced by BEBR. Once a year, BEBR updates its population projections for
23 the state of Florida on a county-by-county basis. FPL's customer growth forecast

1 is based on BEBR's population projections for counties in FPL's service area,
2 released in April of 2006. BEBR includes the potential effects of depressed
3 customer growth as a result of the 2004 and 2005 hurricane seasons.

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

5 A. Florida's population and economy are expanding at levels well above the national
6 average. FPL is projecting an annual average increase of 84,768 new customers
7 for the next fourteen years as shown on Exhibit LEG-1. The annual average
8 projected growth of 84,768 in new customers is slightly lower than the historical
9 annual average of 85,882 for the years 1996-2006. These historical customer
10 growth numbers reflect the effect of the 2004 and 2005 hurricanes on customer
11 growth. Absent the elevated number of hurricanes, the historical customer growth
12 would have been higher. The projected customer growth is in line with the
13 population growth assumptions prepared by the University of Florida.

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

16 A. Factors such as the performance of Florida's economy, affordability index, job
17 opportunities, and international conflicts are also important determinants of
18 growth in FPL's service territory. Florida is still experiencing a period of robust
19 growth in population and this expansion has resulted in a surge of construction of
20 new homes to house this population. The optimistic outlook in the housing
21 market resulted in an over-building of new residences but given the strong growth
22 in population, real estate experts agree that this excessive stock of homes should
23 be absorbed in the next 12 to 18 months. Anecdotally, it is also mentioned that

1 baby boomers are taking advantage of the low mortgage rates to secure housing
2 for their upcoming retirement. In addition, the value of the dollar vis-à-vis the
3 Euro suggests that Florida's real estate market is attractive for foreign investors.
4 This expanded demand for housing and the jobs created are responsible in part for
5 the recent strong growth in the number of FPL customers. This increased
6 demand, higher insurance costs, property taxes and high price of housing in
7 Florida drastically raised the cost of living and affordability index for Florida.
8 This increase in the affordability index and higher inflation, primarily as a result
9 of higher fuel prices, are limiting the potential growth in customers to a certain
10 extent. This explains why projected customer growth is slightly lower than the
11 customer growth experienced in recent years in the face of a more favorable state
12 economy.

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

14 A. FPL's most current customer forecast is shown in Exhibits LEG-1. This is a
15 result of an updated projection of population from BEBR as well as observed
16 recent history of customer growth in FPL service territory.

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

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

20

21

FPL'S PEAK DEMAND FORECAST

22

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

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

6
7 The summer peak forecast is developed using an econometric model. The model
8 is a per-customer model that includes: the real price of electricity, Florida real
9 personal income as an economic driver, average temperature on peak day and a
10 heat buildup variable weather consisting of the sum of the cooling degree hours
11 during the peak day and three prior days. The forecasted summer peak usage per
12 customer is shown on Exhibit LEG-2. The forecasted summer peak usage per
13 customer is multiplied by the projected total customers to derive FPL's system
14 summer peak as shown on Exhibit LEG-3.

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

16 A. Like the system summer peak model, the winter peak model is also an
17 econometric model. The winter peak model is a per-customer model that includes
18 two weather-related variables: the square of the minimum temperature on the
19 peak day and Heating Degree Hours from the prior day until 9:00 a.m. of the peak
20 day. In addition, the model also has an economic term, Florida real personal
21 income. The winter peak usage per customer is shown on Exhibit LEG-4. The
22 projected winter peak load per customer value is multiplied by the total customers
23 to derive FPL's system winter peak as shown on Exhibit LEG-5.

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

2 A. The forecasting process consists of the following:

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

10 Monthly peak forecasts are used in generation planning and also provide
11 information for the scheduling of maintenance for power plants and fuel
12 budgeting.

13 **Q. What were FPL's actual peaks during 2006?**

14 A. FPL experienced a summer peak of 21,819 MW in 2006, which is 457 MW lower
15 than the all time record peak for FPL's service territory of 22,276 MW
16 experienced in 2005. This equates to a decrease of 2.1 percent from the 2005
17 summer peak, and is shown on Exhibit LEG-3. The winter peak for 2005/2006
18 was only 19,682 MW, well below the all time high winter peak of 2002/2003,
19 which was 20,190 MW, as shown on Exhibit LEG-5.

20 **Q. Please summarize the peak demand forecasts.**

21 A. The fourteen year summer peak demand is projected to grow from 21,819 MW in
22 2006 to 30,091 MW by the year 2020 or 8,272 MW in absolute terms as shown in
23 Exhibit LEG-3. By the year 2018, the projected summer peak should reach

1 28,737 MW, a growth of 6,918 MW relative to 2006. By 2021, the summer peak
2 is expected to increase by 2,043 MW from 2018 as shown in Appendix D of the
3 Need Study. The winter peak grows from 19,682 MW in the winter of 2005/2006
4 to 27,994 MW in the winter of 2017/2018 or 8,312 MW in absolute terms as
5 shown in Exhibit LEG-5. For the winter of 2019/2020 the winter peak demand is
6 estimated to reach 29,308 MW or a growth of 9,626 MW. The apparent
7 accelerated growth in the winter peak forecast is a reflection of the fact that in the
8 2005/2006 winter season, FPL's service territory did not experience a "normal"
9 winter peak, which diminishes the base value against which these projected peaks
10 are compared.

11 **Q. What estimated impact did the 2005 Energy Policy Act have on FPL summer
12 peak demand forecast?**

13 A. In 2005, Congress passed the Energy Policy Act mandating certain appliance
14 efficiency standards and insulation for new construction, which is expected to
15 reduce energy demand in the future. FPL estimated the 2005 Energy Policy Act
16 would reduce the projected peak demand from approximately 133 MW in 2006 to
17 as much as 1,256 MW in the year 2014. The annual estimated impact of the 2005
18 Energy Policy Act is shown on Exhibit LEG-12. To arrive at FPL's projected
19 peak demand values used in the Need Determination, the estimated impacts were
20 deducted as line item adjustments from the originally projected peaks for the
21 corresponding years.

22 **Q. What weather assumptions does FPL assume for the summer peak
23 projections?**

1 A. In putting together the summer peak demand forecast, FPL relies on a normal
2 weather outlook. Normal weather is defined as an average of the hourly
3 temperatures for summer peak days over the years 1948 through 2006. The actual
4 temperature values for 1985 to 2006 and those projected from 2007 onward are
5 shown on Exhibit LEG-6.

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

8 A. FPL's need for power, i.e., the amount of resources needed, is driven by the peak
9 demand forecast because FPL's needs are currently determined by the summer
10 reserve margin criterion. While FPL uses both a reserve margin and Loss of Load
11 Probability reliability criteria, the reserve margin criterion driven by the peak load
12 forecast has established the magnitude of the resource need for many years. This
13 fact is addressed in the Need Study.

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

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

18

19 **FPL'S ENERGY SALES FORECAST**

20

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

22 A. The forecast of energy sales consists of three steps. First, an econometric model
23 is developed for total Net Energy for Load (NEL), which is energy generated net

1 of plant use. An econometric model for NEL is more reliable than models for
2 billed energy sales because the explanatory variables can be better matched to
3 usage. This is so because the NEL data does not have to be attuned to account for
4 billing cycle adjustments, which might distort the real time match between the
5 production and consumption of electricity.

6
7 Next, a line loss factor and a billing cycle adjustment are applied to the NEL to
8 arrive at total use of electricity by the customer. Finally, revenue class models are
9 developed to distribute the forecast of total end-use sales of electricity to the
10 different revenue classes, i.e., residential, commercial, and industrial.

11
12 To project energy sales by revenue class, separate models for the residential,
13 commercial, and industrial revenue classes are developed. These revenue class
14 models are developed to obtain an objective allocation of the total energy sales
15 among FPL's different revenue classes. The sum of the sales for all revenue
16 classes will result in total energy sales. The energy sales for each revenue class
17 are then adjusted to reflect the total energy sales derived from the NEL model.

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

19 A. The growth in energy sales comes from the overall growth in the number of new
20 customers as shown on Exhibit LEG-1 and use per customer as shown on Exhibit
21 LEG-8. The product of per capita use and the number of customers yields the
22 NEL for a given period as shown in Exhibit LEG-9. The per capita use of
23 electricity and the increased number of new customers are both linked directly to

1 the performance of the local and national economies. When the economy is
2 booming, the use of electricity increases in all sectors. A strong economy creates
3 new jobs that attract new customers. Under these conditions, new households
4 develop, including those of retirees from other states. However, the reverse also
5 holds true. If the economy is performing poorly, customers with reduced incomes
6 are more apprehensive as to expenditures and tend to restrict their consumption of
7 goods and services. Electricity demand and sales slacken when incomes fall. Job
8 contractions reduce the number of new customers coming to Florida seeking
9 employment opportunities, and new household formations are postponed. FPL
10 relies on the outlook for the state and national economy produced by Global
11 Insight.

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

13 A. Florida's economy has continued to grow at a strong pace and is expected to
14 continue this trend into the foreseeable future. The strong population growth is
15 largely due to baby boomers approaching retirement and the availability of jobs.
16 Florida has been outperforming the national economy, as shown in Exhibit LEG-
17 10, and that pattern is projected to continue. The strong population growth will
18 result in increased demand for various services and new homes; thus, these two
19 sectors are leading the growth for Florida's economy. This forecast also reflects
20 that, as a consequence of the hurricanes in 2004 and 2005, there will still be
21 substantial reconstruction activity and infusion of insurance funds into the local
22 economy. Furthermore, the reconstruction activity fuels the manufacturing sector

1 to service this reconstruction with construction material, furniture and
2 transportation equipment.

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

4 A. The real price of electricity assumed is shown in Exhibit LEG-11. The real price
5 of electricity is substantially higher in the early and latter part of the projected
6 period. The forecast of real price of electricity reflects the projected fuel prices
7 and inflation factor used in the current Need Determination proceedings.

8 **Q. What is the vintage of the Price of Electricity used in the Need Determination**
9 **Load Forecast?**

10 A. The price of electricity forecast used in the Peak and Energy forecast is based on a
11 fuel forecast produced by FPL in August of 2006.

12 **Q. What is FPL's energy sales forecast?**

13 A. In 2006, due primarily to mild weather and high price of electricity, FPL's energy
14 use per customer was - 0.4% below 2005, but with a projected increase of 1.9% in
15 2007, and 1.7% in 2008, as shown in Exhibit LEG-8. The longer term compound
16 annual average growth in use per customer is projected to be 1.2% annually after
17 2009. Customer growth was projected at 2.0% for 2007 and 2.1% for 2008 and
18 then an average of 1.7% for the next 12 years. Combining the energy use per
19 customer and the growth in customers, yields a growth in energy sales estimated
20 at 3.9% in 2007, and 3.8% in 2008, and then an average of 2.9% for the next 12
21 years, as shown in Exhibit LEG-9.

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

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

6

7 The models employed by FPL have good descriptive statistics with high degrees
8 of statistical significance. FPL is confident that the relationship that exists
9 between the level of energy sales and the economy, weather, customers, price of
10 electricity, and other variables have been properly assessed and numerically
11 quantified.

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

13 A. Yes.

TOTAL AVERAGE CUSTOMERS

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|--------|------|
| HISTORY (1996 to 2006) | 85,882 | 2.2% |
| FORECAST (2007 to 2020) | 84,768 | 1.7% |

HISTORY

| | | 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% |
| 2006 | 4,409,563 | 87,668 | 2.0% |

FORECAST

| | | GROWTH | |
|------|-----------|----------|------|
| | | ABSOLUTE | % |
| 2007 | 4,498,169 | 88,606 | 2.0% |
| 2008 | 4,590,561 | 92,393 | 2.1% |
| 2009 | 4,683,749 | 93,188 | 2.0% |
| 2010 | 4,775,460 | 91,710 | 2.0% |
| 2011 | 4,864,831 | 89,371 | 1.9% |
| 2012 | 4,951,957 | 87,126 | 1.8% |
| 2013 | 5,037,427 | 85,471 | 1.7% |
| 2014 | 5,121,200 | 83,772 | 1.7% |
| 2015 | 5,203,878 | 82,678 | 1.6% |
| 2016 | 5,285,732 | 81,854 | 1.6% |
| 2017 | 5,366,787 | 81,055 | 1.5% |
| 2018 | 5,446,324 | 79,536 | 1.5% |
| 2019 | 5,524,219 | 77,895 | 1.4% |
| 2020 | 5,600,152 | 75,933 | 1.4% |

SUMMER PEAK LOAD PER CUSTOMER (KW)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|------|------|
| HISTORY (1996 to 2006) | 0.04 | 0.9% |
| FORECAST (2007 to 2020) | 0.03 | 0.6% |

HISTORY

| | | 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% |
| 2006 | 4.95 | -0.21 | -4.0% |

FORECAST

| | | GROWTH | |
|------|------|----------|------|
| | | ABSOLUTE | % |
| 2007 | 4.95 | 0.00 | 0.0% |
| 2008 | 4.96 | 0.01 | 0.2% |
| 2009 | 5.00 | 0.04 | 0.9% |
| 2010 | 5.03 | 0.02 | 0.5% |
| 2011 | 5.06 | 0.03 | 0.7% |
| 2012 | 5.07 | 0.01 | 0.2% |
| 2013 | 5.08 | 0.01 | 0.2% |
| 2014 | 5.10 | 0.02 | 0.3% |
| 2015 | 5.14 | 0.05 | 0.9% |
| 2016 | 5.19 | 0.04 | 0.8% |
| 2017 | 5.23 | 0.05 | 0.9% |
| 2018 | 5.28 | 0.04 | 0.8% |
| 2019 | 5.32 | 0.04 | 0.8% |
| 2020 | 5.37 | 0.05 | 1.0% |

SUMMER PEAK LOAD (MW)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-----|------|
| HISTORY (1996 to 2006) | 576 | 3.1% |
| FORECAST (2007 to 2020) | 602 | 2.3% |

HISTORY

| | | GROWTH | |
|------|--------|----------|-------|
| | | ABSOLUTE | % |
| 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 | 22,276 | 1,731 | 8.4% |
| 2006 | 21,819 | -457 | -2.1% |

FORECAST

| | | GROWTH | |
|------|--------|----------|------|
| | | ABSOLUTE | % |
| 2007 | 22,259 | 440 | 2.0% |
| 2008 | 22,770 | 511 | 2.3% |
| 2009 | 23,435 | 665 | 2.9% |
| 2010 | 24,003 | 568 | 2.4% |
| 2011 | 24,612 | 609 | 2.5% |
| 2012 | 25,115 | 503 | 2.0% |
| 2013 | 25,590 | 475 | 1.9% |
| 2014 | 26,100 | 510 | 2.0% |
| 2015 | 26,772 | 672 | 2.6% |
| 2016 | 27,410 | 638 | 2.4% |
| 2017 | 28,079 | 669 | 2.4% |
| 2018 | 28,737 | 658 | 2.3% |
| 2019 | 29,391 | 654 | 2.3% |
| 2020 | 30,091 | 700 | 2.4% |

WINTER PEAK LOAD PER CUSTOMER (KW)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-------|-------|
| HISTORY (1996 to 2006) | -0.07 | -1.4% |
| FORECAST (2007 to 2020) | 0.02 | 0.4% |

HISTORY

| | | 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% |
| 2006 | 4.46 | 0.21 | 4.8% |

FORECAST

| | | GROWTH | |
|------|------|----------|-------|
| | | ABSOLUTE | % |
| 2007 | 4.95 | 0.48 | 10.8% |
| 2008 | 4.93 | -0.02 | -0.3% |
| 2009 | 4.94 | 0.01 | 0.1% |
| 2010 | 4.94 | 0.00 | 0.1% |
| 2011 | 4.94 | 0.00 | 0.1% |
| 2012 | 4.95 | 0.00 | 0.1% |
| 2013 | 4.95 | 0.01 | 0.1% |
| 2014 | 4.96 | 0.01 | 0.2% |
| 2015 | 5.01 | 0.04 | 0.9% |
| 2016 | 5.05 | 0.04 | 0.9% |
| 2017 | 5.09 | 0.04 | 0.9% |
| 2018 | 5.14 | 0.05 | 0.9% |
| 2019 | 5.19 | 0.05 | 0.9% |
| 2020 | 5.23 | 0.05 | 0.9% |

WINTER PEAK LOAD (MW)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-----|------|
| HISTORY (1996 to 2006) | 143 | 0.8% |
| FORECAST (2007 to 2020) | 543 | 2.1% |

HISTORY

| | | GROWTH | |
|------|--------|----------|--------|
| | | ABSOLUTE | % |
| 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% |
| 2006 | 19,682 | 1,574 | 8.7% |

FORECAST

| | | GROWTH | |
|------|--------|----------|-------|
| | | ABSOLUTE | % |
| 2007 | 22,247 | 2,565 | 13.0% |
| 2008 | 22,627 | 381 | 1.7% |
| 2009 | 23,115 | 488 | 2.2% |
| 2010 | 23,587 | 472 | 2.0% |
| 2011 | 24,047 | 460 | 1.9% |
| 2012 | 24,498 | 451 | 1.9% |
| 2013 | 24,952 | 454 | 1.9% |
| 2014 | 25,416 | 464 | 1.9% |
| 2015 | 26,048 | 632 | 2.5% |
| 2016 | 26,692 | 644 | 2.5% |
| 2017 | 27,342 | 650 | 2.4% |
| 2018 | 27,994 | 652 | 2.4% |
| 2019 | 28,649 | 655 | 2.3% |
| 2020 | 29,308 | 659 | 2.3% |

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 |
| 2006 | 85.0 | 1,208 |
| 2007 | 84.7 | 1,143 |
| 2008 | 84.7 | 1,143 |
| 2009 | 84.7 | 1,143 |
| 2010 | 84.7 | 1,143 |
| 2011 | 84.7 | 1,143 |
| 2012 | 84.7 | 1,143 |
| 2013 | 84.7 | 1,143 |
| 2014 | 84.7 | 1,143 |
| 2015 | 84.7 | 1,143 |
| 2016 | 84.7 | 1,143 |
| 2017 | 84.7 | 1,143 |
| 2018 | 84.7 | 1,143 |
| 2019 | 84.7 | 1,143 |
| 2020 | 84.7 | 1,143 |

Florida Real Personal Income

| Historical Growth Rates | Annual Average Growth (Millions) | CAAGR (%) |
|--|--|--------------|
| 1985 - 2005 | 14,081 | 3.9 |
| 1995 - 2005 | 16,979 | 3.9 |
| 2001 - 2005 | 15,507 | 3.2 |
| Global Insight's Forecast Growth Rates | | |
| 2006 - 2020 | 30,455 | 4.2 |
| Assumed Growth Rates | | |
| 2006 - 2020 | 21,897 | 3.3 |

NET ENERGY FOR LOAD USE PER CUSTOMER (KWH)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-----|------|
| HISTORY (1996 to 2006) | 145 | 0.7% |
| FORECAST (2007 to 2020) | 344 | 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% |
| 2006 | 25,657 | -102 | -0.4% |

FORECAST

| | | GROWTH | |
|------|--------|----------|------|
| | | ABSOLUTE | % |
| 2007 | 26,133 | 476 | 1.9% |
| 2008 | 26,582 | 448 | 1.7% |
| 2009 | 26,959 | 378 | 1.4% |
| 2010 | 27,327 | 368 | 1.4% |
| 2011 | 27,702 | 375 | 1.4% |
| 2012 | 28,077 | 375 | 1.4% |
| 2013 | 28,264 | 187 | 0.7% |
| 2014 | 28,559 | 295 | 1.0% |
| 2015 | 28,881 | 322 | 1.1% |
| 2016 | 29,240 | 359 | 1.2% |
| 2017 | 29,474 | 233 | 0.8% |
| 2018 | 29,770 | 297 | 1.0% |
| 2019 | 30,067 | 297 | 1.0% |
| 2020 | 30,474 | 407 | 1.4% |

NET ENERGY FOR LOAD (GWH)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-------|------|
| HISTORY (1996 to 2006) | 2,814 | 2.9% |
| FORECAST (2007 to 2020) | 4,109 | 2.9% |

HISTORY

| | | GROWTH | |
|------|---------|----------|-------|
| | | ABSOLUTE | % |
| 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 | 3,207 | 3.0% |
| 2006 | 113,137 | 1,837 | 1.7% |

FORECAST

| | | GROWTH | |
|------|---------|----------|------|
| | | ABSOLUTE | % |
| 2007 | 117,551 | 4,414 | 3.9% |
| 2008 | 122,024 | 4,473 | 3.8% |
| 2009 | 126,270 | 4,246 | 3.5% |
| 2010 | 130,499 | 4,229 | 3.3% |
| 2011 | 134,766 | 4,267 | 3.3% |
| 2012 | 139,038 | 4,273 | 3.2% |
| 2013 | 142,379 | 3,341 | 2.4% |
| 2014 | 146,257 | 3,878 | 2.7% |
| 2015 | 150,291 | 4,035 | 2.8% |
| 2016 | 154,556 | 4,264 | 2.8% |
| 2017 | 158,179 | 3,623 | 2.3% |
| 2018 | 162,140 | 3,961 | 2.5% |
| 2019 | 166,097 | 3,957 | 2.4% |
| 2020 | 170,661 | 4,563 | 2.7% |

NON-AGRICULTURAL EMPLOYMENT

(Seasonally Adjusted)

| | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | | | | | | |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|------------|------------|------------|
| Annual Absolute Growth | 131,833 | 130,345 | 129,999 | 131,435 | 133,458 | 135,374 | | | | | | |
| Annual Percent Growth | 41 | -1,487 | -347 | 1,436 | 2,023 | 1,916 | | | | | | |
| | 0.0% | -1.1% | -0.3% | 1.1% | 1.5% | 1.4% | | | | | | |
| | <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> |
| 2005 | 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% |
| 2006(1) | 134,530 | 134,730 | 134,905 | 135,017 | 135,117 | 135,251 | 135,374 | 135,604 | 135,807 | 135,893 | 136,047 | 136,214 |
| Annual Absolute Growth | 2,059 | 1,994 | 2,029 | 1,913 | 1,907 | 1,875 | 1,757 | 1,812 | 1,967 | 2,016 | 1,816 | 1,843 |
| Annual Percent Growth | 1.6% | 1.5% | 1.5% | 1.4% | 1.4% | 1.4% | 1.3% | 1.4% | 1.5% | 1.5% | 1.4% | 1.4% |
| | <u>2001</u> | <u>2002</u> | <u>2003</u> | <u>2004</u> | <u>2005</u> | <u>2006</u> | | | | | | |
| Annual Absolute Growth | 7,171 | 7,180 | 7,261 | 7,510 | 7,805 | 8,006 | | | | | | |
| Annual Percent Growth | 91 | 9 | 81 | 249 | 295 | 201 | | | | | | |
| | 1.3% | 0.1% | 1.1% | 3.4% | 3.9% | 2.6% | | | | | | |
| | <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> |
| 2005(1) | 7,672 | 7,695 | 7,698 | 7,753 | 7,774 | 7,779 | 7,821 | 7,851 | 7,874 | 7,890 | 7,915 | 7,944 |
| Annual Absolute Growth | 288.2 | 296.0 | 278.5 | 282.5 | 299.9 | 276.7 | 277.0 | 304.2 | 351.3 | 304.2 | 290.7 | 290.5 |
| Annual Percent Growth | 3.9% | 4.0% | 3.8% | 3.8% | 4.0% | 3.7% | 3.7% | 4.0% | 4.7% | 4.0% | 3.8% | 3.8% |
| 2006(1) | 7,930 | 7,946 | 7,980 | 7,969 | 7,994 | 8,018 | 8,008 | 8,024 | 8,040 | 8,036 | 8,059 | 8,070 |
| Annual Absolute Growth | 257.9 | 251.3 | 281.4 | 216.2 | 219.2 | 239.0 | 186.8 | 173.5 | 165.5 | 145.8 | 144.4 | 126.1 |
| Annual Percent Growth | 3.4% | 3.3% | 3.7% | 2.8% | 2.8% | 3.1% | 2.4% | 2.2% | 2.1% | 1.8% | 1.8% | 1.6% |

(1) Revised as of December 2006

REAL PRICE OF ELECTRICITY (¢/KWH)

AVERAGE ANNUAL GROWTH

| | | |
|-------------------------|-------|-------|
| HISTORY (1996 to 2006) | 0.08 | 1.6% |
| FORECAST (2007 to 2020) | -0.03 | -0.6% |

HISTORY

| | | GROWTH | |
|------|------|----------|--------|
| | | ABSOLUTE | % |
| 1996 | 4.71 | 0.39 | 8.3% |
| 1997 | 4.59 | -0.12 | -2.5% |
| 1998 | 4.37 | -0.22 | -4.9% |
| 1999 | 4.10 | -0.27 | -6.1% |
| 2000 | 3.98 | -0.12 | -2.9% |
| 2001 | 4.55 | 0.56 | 14.1% |
| 2002 | 4.07 | -0.48 | -10.5% |
| 2003 | 4.32 | 0.25 | 6.2% |
| 2004 | 4.43 | 0.11 | 2.4% |
| 2005 | 4.55 | 0.12 | 2.7% |
| 2006 | 5.53 | 0.98 | 21.6% |

FORECAST

| | | GROWTH | |
|------|------|----------|-------|
| | | ABSOLUTE | % |
| 2007 | 5.25 | (0.28) | -5.0% |
| 2008 | 4.89 | -0.36 | -6.9% |
| 2009 | 4.40 | -0.48 | -9.9% |
| 2010 | 4.22 | -0.18 | -4.2% |
| 2011 | 3.86 | -0.36 | -8.5% |
| 2012 | 3.84 | -0.02 | -0.5% |
| 2013 | 3.94 | 0.10 | 2.5% |
| 2014 | 3.97 | 0.03 | 0.7% |
| 2015 | 4.03 | 0.06 | 1.5% |
| 2016 | 4.25 | 0.22 | 5.4% |
| 2017 | 4.38 | 0.14 | 3.2% |
| 2018 | 4.56 | 0.18 | 4.2% |
| 2019 | 4.77 | 0.20 | 4.4% |
| 2020 | 4.85 | 0.08 | 1.8% |

**IMPACT OF THE 2005 ENERGY POLICY ACT
ADJUSTMENT**

| | MW |
|------|------|
| 2006 | 133 |
| 2007 | 259 |
| 2008 | 387 |
| 2009 | 518 |
| 2010 | 660 |
| 2011 | 806 |
| 2012 | 953 |
| 2013 | 1103 |
| 2014 | 1256 |
| 2015 | 1256 |
| 2016 | 1256 |
| 2017 | 1256 |
| 2018 | 1256 |
| 2019 | 1256 |
| 2020 | 1256 |