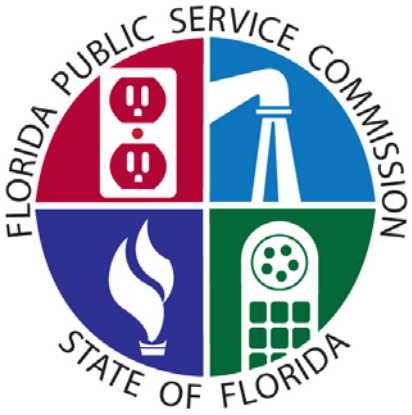
REVIEW OF THE
2011 TEN-YEAR SITE PLANS
FOR FLORIDA'S ELECTRIC UTILITIES



Florida Public Service Commission

Tallahassee, FL

November, 2011

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STATEWIDE PERSPECTIVE

INDIVIDUAL UTILITIES

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MUNICIPAL UTILITIES & RURAL COOPERATIVES

UTILITIES FILING A TEN-YEAR SITE PLAN

Investor-Owned Utilities

FPL	Florida Power & Light Company
Gulf	Gulf Power Company
PEF	Progress Energy Florida, Inc.
TECO	Tampa Electric Company

Municipal Utilities

FMPA	Florida Municipal Power Agency
GRU	Gainesville Regional Utilities
JEA	JEA
LAK	City of Lakeland
OUC	Orlando Utilities Commission
TAL	City of Tallahassee

Rural Electric Cooperatives

SEC	Seminole Electric Cooperative

EXECUTIVE SUMMARY

Pursuant to Section 186.801(1), Florida Statutes (F.S.), each generating electric utility must submit to the Florida Public Service Commission (Commission) a Ten-Year Site Plan (TYSP or Plan) which estimates the utility's power generating needs and the general locations of its proposed power plant sites over a ten-year planning horizon. The Commission is required to perform a preliminary study of each plan and classify each one as either "suitable" or "unsuitable." This document represents the study for the 2011 Ten-Year Site Plans for Florida's electric utilities. All findings of the Commission are made available to the Florida Department of Environmental Protection (DEP) for its consideration at any subsequent electrical power plant site certification proceedings pursuant to the Power Plant Siting Act (PPSA)[1]. In addition, this document is forwarded to the Department of Agriculture and Consumer Services (DACS) pursuant to Section 377.703(2)(e), F.S., which requires the Commission to provide a report on electricity and natural gas forecasts. A copy of this report is also posted on the Commission's web site and is available to the public.

The Commission has reviewed the Ten-Year Site Plans filed by the eleven reporting utilities, as well as supplemental data provided through data requests, and finds that the projections of load growth appear reasonable. The reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost. Therefore, the Commission finds the 2011 Ten-Year Site Plans filed by the reporting utilities, augmented with supplemental data provided, to be suitable for planning purposes.

Since the Ten-Year Site Plan is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in docketed matters before the Commission. The Commission may address any concerns raised by a utility's TYSP at a public hearing.

The 2011 TYSPs differ from those produced in previous years in two significant ways: the projected annual growth rate of customers has once again turned positive, and the estimate of energy consumption per residential customer has risen dramatically, well above the level that was forecasted in the previous two years. Both of these factors indicate that the electric industry in Florida is beginning a return to patterns of growth which are more consistent with historic levels. The four largest investor-owned utilities (IOUs) – Florida Power & Light Company (FPL), Progress Energy Florida, Inc. (PEF), Tampa Electric Company (TECO), and Gulf Power Company (Gulf) – are reporting positive growth in all customer classes (except Gulf's commercial/industrial class) for the first time since 2006, but the rate of growth is well below historical norms for all four utilities.

The 2011 TYSPs identify an increase of generating capacity in the State of Florida by approximately 9,000 megawatts (MW) over the planning horizon. This figure represents an increase of about 4,000 MW from last year's Ten-Year Site Plans. The 2011 Plans include retirements and uprates of existing units along with new generating units to be added during the ten-year horizon, all of which are natural gas-fired units. As in previous planning cycles, the

[1] The Power Plant Siting Act is Sections 403.501 through 403.518, Florida Statutes

addition of these gas units will increase the percentage of natural gas used in Florida to generate electricity.

All TYSPs are subject to modification due to factors such as changes to fuel cost, energy use, evolving technology, and shifting energy policy. In fact, the information presented in the 2011 TYSPs for FPL and PEF has been modified significantly, rendering their 2011 TYSPs as filed obsolete. However, consideration of the supplemental data obtained through data requests brings these Plans up to date.

Three major changes in FPL's planning assumptions have occurred, all of which affect its system reliability and future need for additional generation in various ways. FPL's 2011 TYSP reports that it would need to begin scheduling planned maintenance of its generating units during peak demand periods, thereby reducing the capacity available at those critical times. However, FPL later informed the Commission that it had determined the required maintenance may be performed during the non-peak periods. FPL has indicated that this change results in 350 MW of additional capacity during its summer peak period, and 550 MW of additional capacity during its winter peak period. In addition, on July 26, 2011, the Commission found that the Demand-Side Management (DSM) Plan based on the 2009 goals filed by FPL would have an undue impact on the costs passed on to customers, and that the public interest would be served by modifying the DSM Plan such that it consists of those programs that were already in effect. Finally, on July 18, 2011, FPL filed a petition indicating its intention to modernize its Port Everglades plant by replacing four 1960s-era steam units with a new, highly efficient combined cycle (CC) power plant. This modernization will be done in order to meet a reliability need in 2016, which appears in FPL's 2011 Plan as a "greenfield" unit. The modernization project will produce a net increase in system capacity of only about 80 MW, but the new combined cycle unit will be approximately 35 percent more efficient than the older units.

PEF has also experienced changes to the planning assumptions used to produce its 2011 Ten-Year Site Plan. The TYSP submitted to the Commission in April 2011 includes capacity from PEF's Crystal River Unit 3 (CR3) nuclear facility, which at that time was out of service due to a delamination of the concrete containment structure discovered during a steam generator replacement project which began in October 2009. When the 2011 Plan was produced, PEF expected that the CR3 containment building would be repaired and the unit would be operational before the summer peak period in 2011. However, since that time another delamination has occurred, and PEF is now estimating the return to service of CR3 to be some time in 2014. Additionally, as with FPL, the Commission ruled on July 26, 2011, that PEF's DSM Plan based on the 2009 goal would have an undue impact on the costs passed on to customers, and that the public interest would be served by modifying the DSM Plan such that it consists of those programs that were already in effect.

PEF's 2011 TYSP identified a 178 MW combustion turbine (CT) in 2020 as its next planned generation addition. For PEF, the reduced savings from DSM would presumably act to accelerate the need for additional capacity in the short term. The effect of delaying CR3's return to service until 2014 would not cause the need for new generation to occur sooner than PEF's original 2011 TYSP. The reduced DSM savings, however, have accelerated the need for the new combustion turbine. Updated schedules obtained through data requests show the new

CT coming into service in 2018. In addition, the updated schedules include a new combined cycle unit with a summer capacity of 767 MW coming into service in 2020.

For these reasons, the Commission is continuing to closely monitor the developments in the planning processes of the reporting utilities, in order to ensure the reliability of the electric generation system in Florida, and the need for additional generation and transmission facilities in the state.

Conservation and Demand-Side Management

The first step in any resource planning process is to focus on the efficient use of electricity by consumers. Government mandates, such as building codes and appliance efficiency standards, provide the starting point for energy efficiency. Customer choice is the next step in reducing the state's dependence upon expensive fuels and lowering greenhouse gas emissions. Consequently, educating consumers to make smart energy choices is particularly important. Finally, Florida's utilities can efficiently serve their customers by offering DSM and conservation programs designed to use fewer resources at lower cost.

In 2009, the Commission established aggressive new conservation goals for the Florida Energy Efficiency and Conservation Act (FEECA)[2] utilities to meet through their DSM and energy efficiency programs. All six of the generating FEECA utilities have now incorporated these new goals into their 2011 TYSPs. However, in July 2011, the Commission found that the DSM Plans based on the 2009 goals filed by FPL and PEF would have an undue impact on the costs passed on to customers, and that the public interest would be served by modifying them such that the DSM Plans of both utilities consist of those programs that were already in effect. These modifications are likely to result in lower levels of demand and energy savings than that reflected in the 2011 TYSPs for FPL and PEF.

Modernization of Existing Facilities

Before an electric utility proceeds with plans to construct a new generating unit, it must consider all available options to meet additional need in the most reliable and cost-effective manner possible. The modernization of an existing unit can sometimes prove to be the best choice. The term "modernization" refers to the upgrading of older, less efficient units with new, cleaner burning and more fuel efficient technologies. Such projects usually require the removal of the older units, which will temporarily impact reliability until the new unit comes in-service. Consequently, a utility planning a modernization project must ensure that its reserves are sufficient for the duration of the outage prior to commencing with the construction.

The Commission approved two modernization projects for FPL in 2008, both of which are currently on schedule. The modernized unit at Cape Canaveral will be operational in 2013, and the new Riviera Beach combined cycle unit is scheduled to be online in 2014. Most recently, FPL has notified the Commission that it intends to modernize its Port Everglades unit. Before considering new generation, utilities are encouraged to address the feasibility of modernization by continuing to explore potential projects and to report such findings in next year's Ten-Year Site Plans.

[2] Sections 366.80-366.85 and 403.519, F.S.

New Generation Facilities

The State of Florida currently has a total summer generating capacity of 57,605 MW installed. Of the approximately 9,000 MW of net capacity included in the 2011 Plans, about 5,300 MW are from new generation units to be installed, all of which will be natural gas-fired units. The remaining 3,700 MW are made up of new units already under construction and uprates of existing units.

As noted previously, the primary purpose of this review of the utilities' TYSPs is to provide information regarding new electric power plants to the DEP for its use in the certification process. Table 1 displays the new generation facilities included in the 2011 Ten-Year Site Plans that are appearing for the first time, and which will require certification under the Power Plant Siting Act. Table 1 also includes PEF's additional CC unit which did not appear in the Plan, but rather was added in a data request.

Table 1. Generation Units Requiring Certification

Year Planned	Utility	Location	Summer Net Capacity (MW)	Unit Type
2016	FPL	Port Everglades	1,277	Combined Cycle
2020	FPL	Unknown	1,191	Combined Cycle
2020	PEF	Unknown	767	Combined Cycle
2020	SEC	Unknown	196	Combined Cycle
2020	SEC	Unknown	196	Combined Cycle

Source: Responses to Staff Data Requests.

Fuel Diversity

Because a balanced fuel supply can enhance system reliability and significantly mitigate the effects of volatile fuel price fluctuations, it is important that utilities have the greatest possible level of flexibility in their generation fuel source mix. Although the Commission has cited the growing lack of fuel diversity within the State of Florida as a major strategic concern for the past several years, the continuing trend of an increasing reliance on natural gas-fired generation is likely to persist into the foreseeable future. In previous Ten-Year Site Plans, Florida's utilities responded to fuel diversity concerns through the inclusion of multiple coal-fired power plants. Due to a combination of fuel cost uncertainties, high capital costs, and uncertainties regarding potential environmental costs related to possible carbon emission regulations, more than 4,000 MW of coal-fired generation has been canceled. In 2007 and 2008, the Commission approved the need for approximately 5,000 MW of new nuclear generation. However, over the course of the past two planning cycles, all of the new nuclear units have been delayed beyond the current ten-year planning horizon.

Currently, more than 50 percent of the electric power in Florida is generated by natural gas. The fact that the price of natural gas is expected to remain relatively low throughout the planning horizon is a major contributor to the forecast that natural gas will generate more than 55 percent of the electric energy in Florida by the year 2020.

Approximately 1,300 MW of renewable generation is currently operating in Florida, an increase of about 80 MW over the 2010 total. Presently almost 31 percent of all renewable generation in Florida comes from municipal solid waste (MSW). Other major types of renewable generation operating in the state include woody biomass (30 percent) and waste heat (22 percent). The remaining 17 percent is made up by a combination of landfill gas, hydroelectric generation, and both solar thermal and solar photovoltaic generation.

Historically, relatively high capital and operating costs, as well as limited physical applications, have hampered the development of renewable energy in Florida. Over the current ten-year planning horizon, approximately 765 MW of additional renewable generation is planned in the state, an increase of more than 30 MW from last year. The majority of these additions proposes to use biomass, with significant amounts from solar and MSW as well. While these new projects represent a significant increase from the existing total, renewable generation continues to provide a relatively small contribution towards the reduction of our state's reliance on expensive fossil fuels.

INTRODUCTION

The Ten-Year Site Plans of Florida's electric utilities are designed to give state, regional, and local agencies advance notice of proposed power plants and transmission facilities. The Commission receives comments from these agencies regarding any issues with which they may have concerns. These comments are included in Appendix A of this review. Because the Ten-Year Site Plans are considered to be planning documents and can contain tentative data, they may not necessarily contain sufficient information to allow regional planning councils, water management districts, and other reviewing agencies to evaluate site-specific issues within their respective jurisdictions. Each utility is responsible for providing detailed information based on individual assessments during certification proceedings under the Power Plant Siting Act (PPSA), Sections 403.501-403.518, F.S., or the Transmission Line Siting Act (TLSA), Sections 403.52-403.5365, F.S. In addition, other regulatory processes may require utilities to provide additional information as needed.

Statutory Authority

Section 186.801, F.S., requires all major generating electric utilities in Florida to submit a Ten-Year Site Plan to the Florida Public Service Commission for review not less often than biennially. In order to fulfill this statutory requirement, the Commission has adopted Rules 25-22.070 through 22.072, F.A.C. The Ten-Year Site Plans must contain projections of each utility's electric power needs, fuel requirements, and information regarding planned additional generating units (size, general location, etc.), as well as any major changes or additions to transmission facilities. Any generating utility in the state planning to build a new unit larger than 75 MW within the planning horizon is required to file a Ten-Year Site Plan. Otherwise, utilities with existing generating capacities below 250 MW are exempt from this requirement.

In accordance with Section 186.801, F.S., the Commission performs a preliminary study of each utility's Ten-Year Site Plan to determine whether each is suitable or unsuitable. This document, *Review of the 2011 Ten-Year Site Plans*, contains the results of the study. The Commission forwards this document to the Florida Department of Environmental Protection (DEP) for use in power plant siting proceedings.

In addition, Section 377.703(2)(e), F.S., requires the Commission to coordinate with the Department of Agriculture and Consumer Services (DACS) in its preparation of long-range forecasts of energy supply and demand. The *Review of the 2011 Ten-Year Site Plans*, which contains electricity and natural gas forecasts, is forwarded to the DACS.

Information Sources

Contained in each utility's Ten-Year Site Plan is a series of required schedules which provide detailed information on items such as existing generating facilities, energy consumption and number of customers, summer and winter peak demand history and forecasts, net energy for load (NEL) history and forecast, etc. This information provides the basis for the Commission's review. Additional data is obtained through supplemental data requests.

The Florida Reliability Coordinating Council (FRCC) is also an important source of information for the Commission's review. Each year, the FRCC publishes its *Regional Load and Resource Plan* which contains aggregate data on demand and energy, capacity and reserves, and proposed new generating units and transmission line additions, both for Peninsular Florida and for the entire state.[3] In addition to the *2011 Regional Load and Resource Plan*, the Commission used the FRCC's *2011 Reliability Assessment* as a resource in the production of this review.

On September 7, 2011, the Commission held a public workshop to facilitate discussion of the annual planning process. In addition to a presentation by the FRCC, presentations were given by FPL, PEF, and TECO in order to highlight the significant aspects of the 2011 TYSPs for these utilities. The workshop also allowed for public comment on any of the TYSPs that were filed with the Commission.

Suitability

The Commission has reviewed the Ten-Year Site Plans filed by the eleven reporting utilities, as well as supplemental data provided through data requests, and finds that the projections of load growth appear reasonable. The reporting utilities have identified sufficient additional generation facilities to maintain an adequate supply of electricity at a reasonable cost. Therefore, the Commission finds the 2011 Ten-Year Site Plans filed by the reporting utilities, augmented with supplemental data provided, to be suitable for planning purposes.

Since the Ten-Year Site Plan is not a binding plan of action for electric utilities, the Commission's classification of these Plans as suitable or unsuitable does not constitute a finding or determination in docketed matters before the Commission. The Commission may address any concerns raised by a utility's Ten-Year Site Plan at a public hearing.

[3] Peninsular Florida refers to the FRCC region, which includes all Florida utilities except Gulf Power Company.


FLORIDA PUBLIC SERVICE COMMISSION
STATE OF FLORIDA

FLORIDA'S POPULATION AND ELECTRICITY FORECASTS

Table 2 illustrates the breakdown of the customer base in Florida and the amount and percentages of electric energy purchased by each class.

Table 2. State of Florida: Characteristics of Florida's Electric Customers (2010 Actual)

Customer Class	Number of Customers	% of Customers	Energy Sales (GWh)	% of Sales
Residential	8,324,256	88.7%	118,870	54.1%
Commercial	1,030,955	11.0%	80,182	36.5%
Industrial	27,043	0.3%	20,708	9.4%
Total	**9,382,254**	**100.0%**	**219,760**	**100.0%**

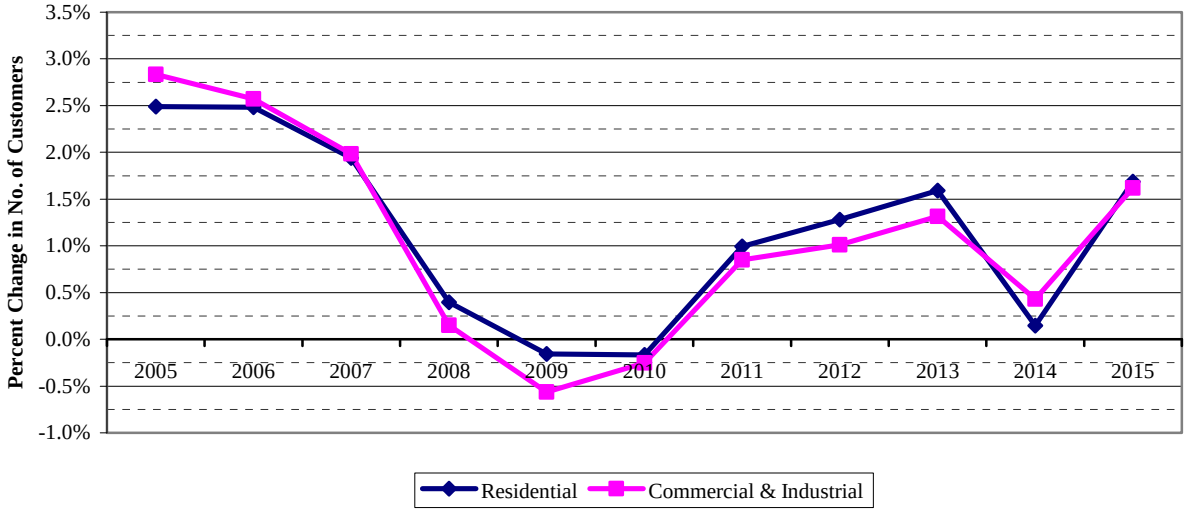
Source: FRCC's 2011 Load & Resource Plan, p. S-2

Forecasting load growth is the first component of system planning for Florida's electric utilities. In order to maintain a reliable system, utilities must stay abreast of changes in customer base as well as trends in energy and demand. Utilities perform load and energy forecasts to estimate the amount and timing of future capacity needs.

The numbers of customer accounts declined each year from 2005 through 2009. This trend was presumably a consequence of the economic recession being experienced across the nation and the high numbers of foreclosures in Florida. However, in 2010 the growth in commercial customers became positive once again, although at a much lower rate than historic norms, while the growth in residential accounts was stable.

Figure 1 shows the actual annual growth rate for the period 2005 through 2010, as well as the forecasted growth rate from 2011 through 2015. Beginning in 2005, the growth rate in the numbers of customers began to slow, and in 2009 and 2010 was actually negative. Although the rate of growth in 2010 was still negative, it had stabilized. In the first part of 2011 the numbers of customer accounts began to increase, and positive growth is forecasted to continue each year (except for 2014) throughout the planning horizon. In conjunction with this trend, the per customer consumption for residential accounts spiked upwards. The cause of this spike could be related to the economic recession, as a result of having more occupants per household. The number of customer accounts appears to drop in the 2014 plan year, due to a decrease in customers for both FMPA (when the City of Lake Worth leaves the ARP) and SEC (when the Lee County Electric Cooperative will no longer be served).

Figure 1. State of Florida: Annual Growth Rate (%) of Customers for 2005 through 2015



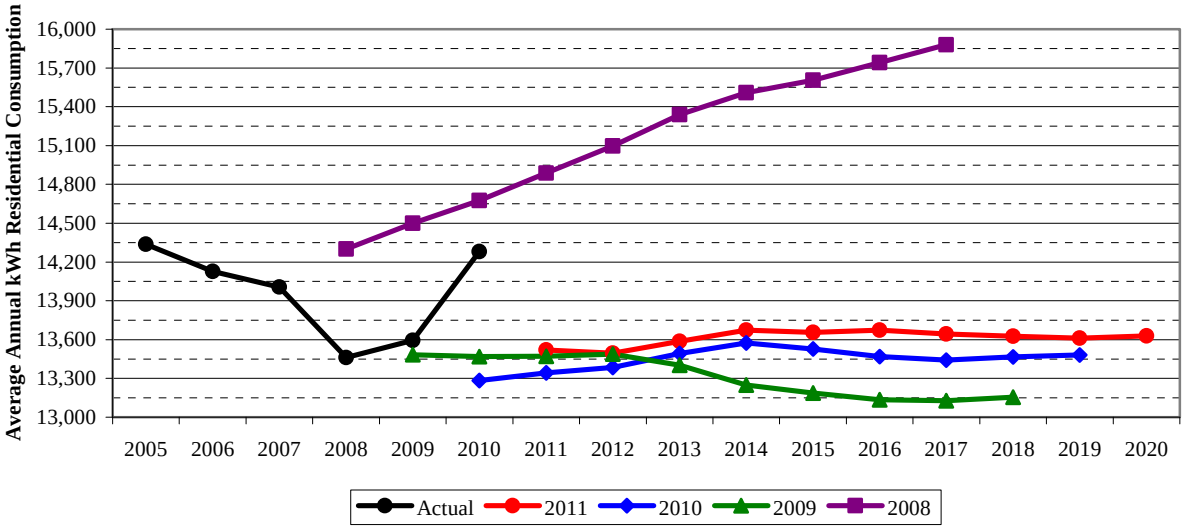
Source: FRCC's 2011 Load & Resource Plan, p. S-2

Florida's electrical demand and energy requirements are heavily dependent on the energy consumption behaviors of residential customers. This relationship is a result of the fact that close to 90 percent of electric customers in Florida are residential accounts, with these customers purchasing more than half the energy sold in the state in 2010.

The 2011 Ten-Year Site Plans have two major differences from the Plans produced in the years since 2005. The annual growth rate of customers has become positive, and the energy consumption per residential customer has risen to a level well above that which was forecasted in the two previous planning cycles.

Per customer energy consumption is a major contributor in the utilities' determination of net energy for load (NEL). Figure 2 shows the actual per customer consumption from 2005 through 2010, as well as changes in the forecasted energy usage since 2008. Actual usage began to increase in 2009 after three years of decline, and therefore the forecasted per customer consumption has been adjusted slightly upward each year following the dramatic drop in forecasted usage in 2009. Both Figures 1 and 2 appear to indicate that the electric industry in Florida is beginning a return to patterns of growth which are more consistent with historic levels.

Figure 2. State of Florida: Average Energy Consumption per Residential Customer

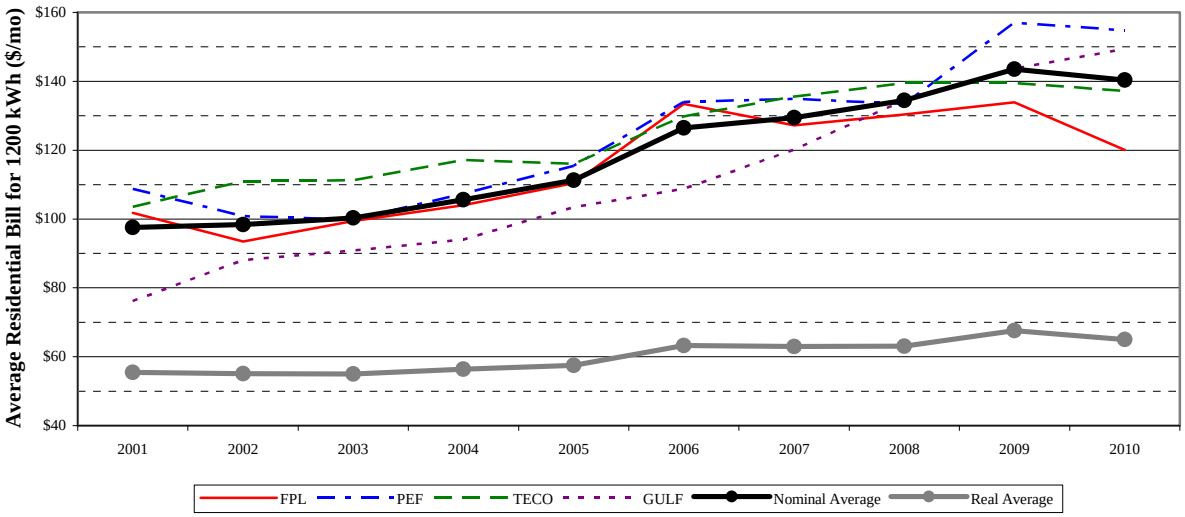


Source: FRCC's 2011 Load & Resource Plan, S-2

As Figure 3 illustrates, the average bill for a residential electric customer in Florida has increased steadily since 2001. In the 20 years prior to 2001, electricity prices were held at a relatively stable level due to moderate fuel prices and a balanced fuel supply. However, Florida's increasing reliance on natural gas for electric generation, coupled with a rise in the price of natural gas nationally, has led to a consistent increase in the average residential monthly bill over the past ten years. A slight decline in the average bill for 2010 can be seen in Figure 3, which is an indication that fuel prices dropped relative to usage. This result is expected since residential bills are based mostly on energy consumption, as opposed to commercial and industrial accounts which are based on both energy and maximum demand. The average bills are shown in both real and nominal amounts.[4]

[4] Nominal values are expressed in current dollars, while real values have been adjusted for the effects of inflation.

Figure 3. IOUs: Average Residential Monthly Bill (2001 to 2010)



Source: Responses to FPSC Data Requests.

Seasonal Peak Demand and Energy Forecasts

Historical data such as energy usage patterns, trends in population growth, economic variables, and weather data form the foundation for each utility's load and energy forecasts. Econometric forecast models are then used to quantify the historical impact of these data, and together with sets of forecast assumptions on future growth, energy usage, and weather for each utility's service territory, the final demand and energy forecasts are produced. These peak demand and energy forecasts are used as the starting point for determining new capacity additions necessary to maintain minimum levels of reliability.

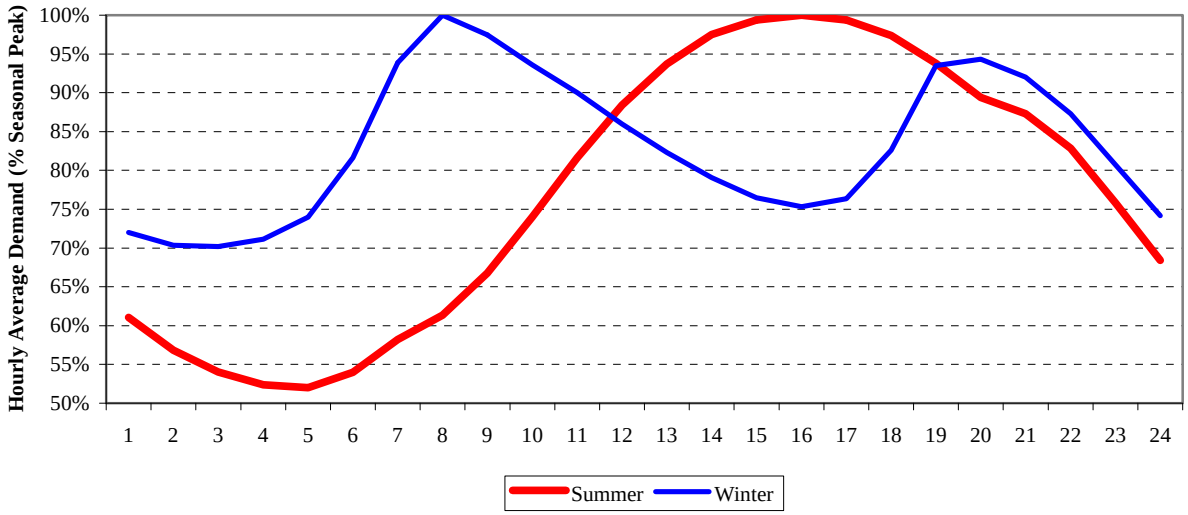
Peak demand is a measure of the amount of electric power required at any particular instant in time, and is measured in megawatts (MW). These very important quantities are determined for both the summer and winter seasons, and the maximum values are used in the determination of the timing and size of future capacity additions. Energy is the accumulation of demand over time, and its unit of measure is the megawatt-hour (MWh), which is the total amount of MW consumed over a one-hour period of time.[5] For example, if a device uses one MW and it is operated for one hour, then the total energy consumption is one MWh. The appropriate type of new generating capacity required is determined by energy requirements of the system. A load that remains relatively constant would require a base load unit, whereas a load with a great deal of variation would require a peaking or intermediate unit. However, a utility must take many factors into consideration when planning both the type of generation and the fuel that best suit the circumstances.

Because the vast majority of customers in Florida are residential, peak demand in the summer season begins to climb in the morning, peaks during the hottest part of the day, and

[5] Alternate units of energy are the kilowatt-hour (kWh) and the gigawatt-hour (GWh). A kilowatt is one thousand watts (10^3 watts), a megawatt is one million watts (10^6 watts), and a gigawatt is one billion watts (10^9 watts).

levels off as the evening approaches. This usage pattern corresponds to increasing loads due to air conditioning for residential customers. In the winter season, the usage pattern has two distinct peaks: the larger one in the mid-morning and a smaller one in the late evening, which correspond to residential heating loads. Figure 4 illustrates the daily load curve for a typical utility in Florida.

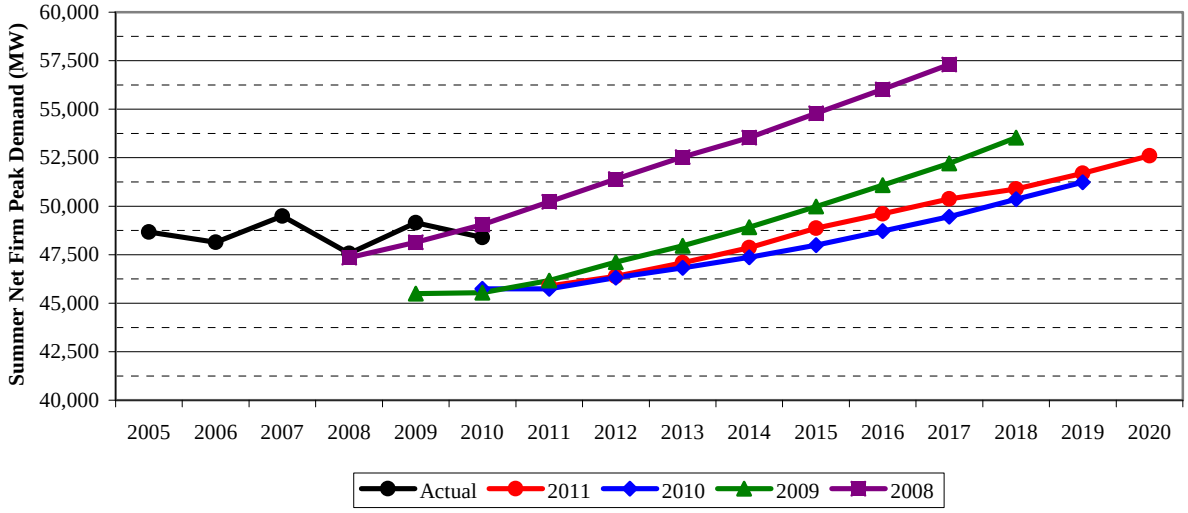
Figure 4. Typical Daily Load Curve for Florida Electric Utility



Source: Responses to FPSC Data Requests.

Because Florida has historically experienced its highest electric demand during summer months, the timing of future capacity additions will be based mainly on the projected summer peak demand. As Figure 5 shows, utilities in Florida adjusted their forecasts for summer peak demand downward in 2009 and in 2010, but in 2011 it was adjusted slightly upward. This change is in accordance with the positive changes in customer accounts as well as forecasted per customer consumption for the current planning horizon.

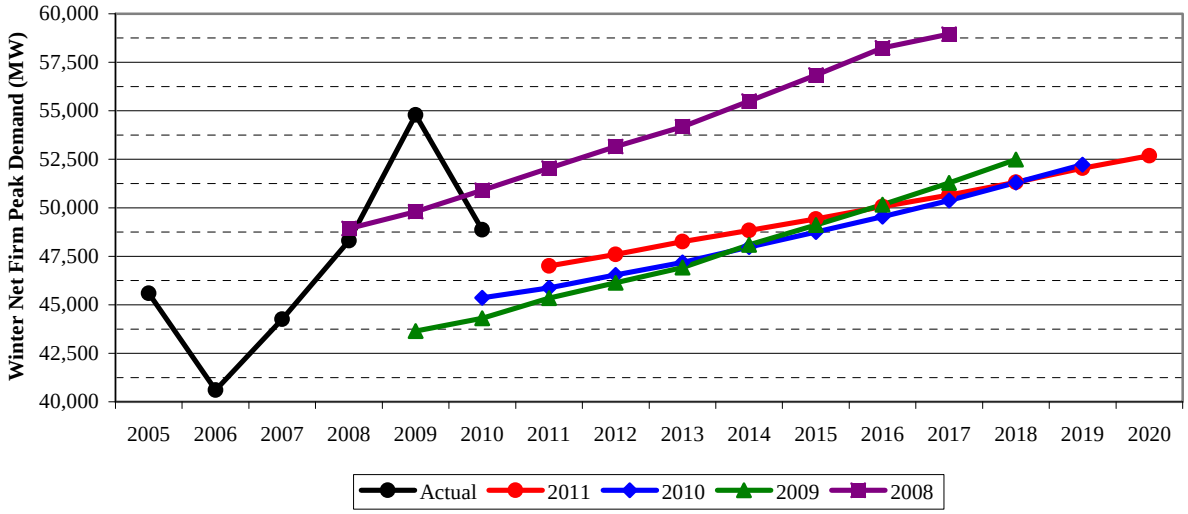
Figure 5. State of Florida: Summer Demand (Actual and Forecasted)



Source: FRCC's 2008 to 2011 Load & Resource Plans

Figure 6 shows the actual and forecasted winter peak demand. As with summer peak demand, the forecast for winter peak demand was adjusted downward in 2009. However, in 2010 the forecast was adjusted slightly upward in the early years, and downward in the later years of the planning horizon. This same adjustment was made in the current forecast, causing the winter demand forecast to become more level. The winter peak demand actual values were quite a bit higher than was forecasted for these same years, most likely due to the cold snaps in the past two winter seasons that produced record or near-record low temperatures.

Figure 6. State of Florida: Winter Demand (Actual and Forecasted)

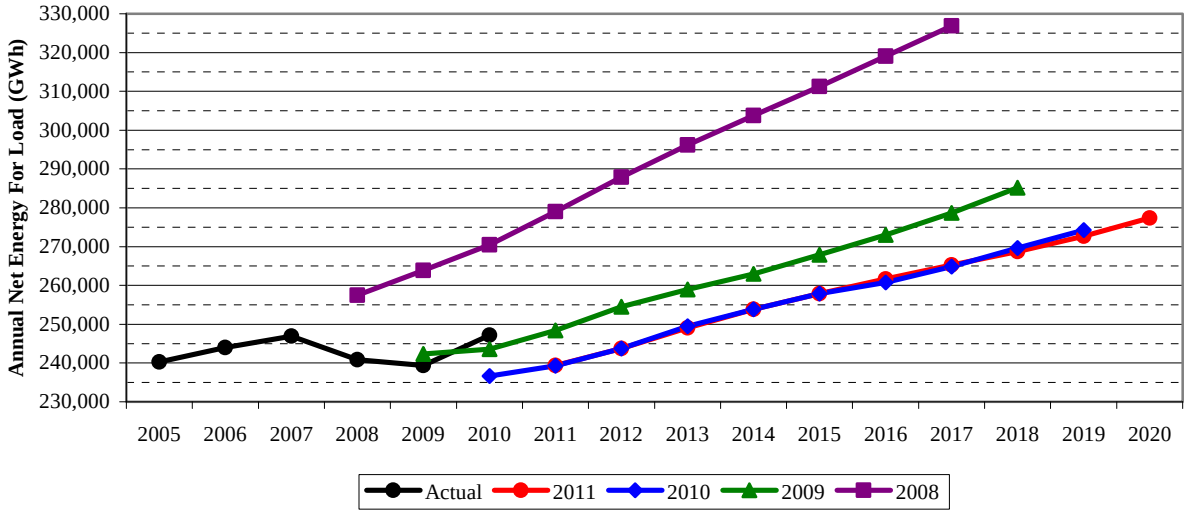


Source: FRCC's 2008 to 2011 Load & Resource Plans

Net energy for load (NEL) represents the amount of energy necessary to meet customer's needs. Figure 7 illustrates the actual and forecasted annual values for NEL. As discussed previously, NEL determines the type of generation that will be required (base load, peaking, or intermediate).

The actual values for NEL in 2009 and 2010 are quite close to the 2009 forecast, as can be seen from Figure 7. Although the forecasts for 2010 and 2011 are nearly identical, both are below the 2009 forecast, and all three are well below the levels forecasted in 2008.

Figure 7. State of Florida: Annual Net Energy for Load (Actual and Forecasted)



Source: FRCC's 2008 to 2011 Load & Resource Plans

Because the effects of forecast error can be dramatic, the Commission compares the forecasts to historical values for peak load and energy. Reviewing the past results of a load and energy forecasting methodology reveals whether that methodology has produced accurate forecasts. A pattern of over- or under-forecasting is indicative of past forecast error that could be carried forward into current forecasts.

For each utility filing a TYSP, the Commission reviewed the historical forecast accuracy of total retail energy sales for the five-year period from 2006 to 2010. The review compared actual energy sales for each year to energy sales forecasts made three, four, and five years prior. For example, the actual 2006 energy sales were compared to the projected 2006 forecasts made in 2001, 2002, and 2003. These differences, expressed as a percentage error rate, were used to calculate the utility's historical forecast accuracy. When the individual utilities' error rates are averaged together, the resulting average forecast error is 2.44 percent. This value indicates that overall, the eleven utilities filing TYSPs have tended to over-forecast their energy sales by 2.44 percent. If the tendency was to under-forecast, the error rate would be a negative value.

RELIABILITY CRITERIA

In order to ensure the reliability of the nation's electrical systems, the Federal Energy Regulatory Commission (FERC) in 2006 certified the North American Electric Reliability Corporation (NERC) to be the electric reliability organization with statutory authority to enforce compliance with reliability standards among all market participants in the U.S. In turn, NERC has authorized the Florida Reliability Coordinating Council (FRCC) to implement a compliance program to monitor and enforce reliability standards within Peninsular Florida.[6] Among many others, one important standard that Florida's electric utilities must meet is a minimum level of reserve capacity, also called a reserve margin.

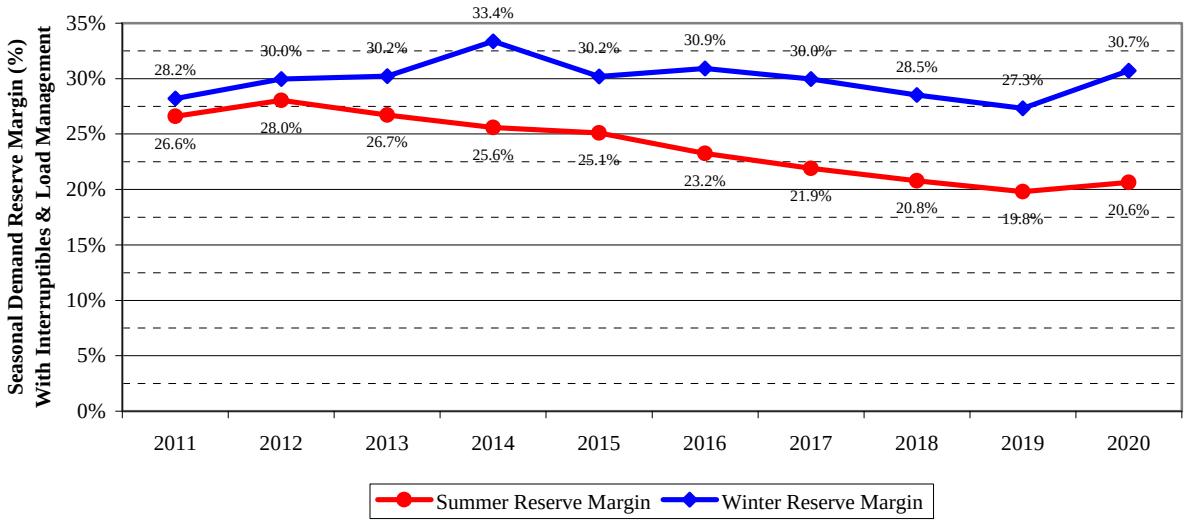
In order to maintain stability in the electric system, utilities must constantly adjust system output to match demand from moment to moment. As demand fluctuates, utilities must generate the precise amount of electrical power that will keep the system in balance. In addition, utilities must be prepared at any moment to meet unexpected spikes in demand due to unforeseen circumstances, such as extreme weather events. Although peak demand is methodically forecasted and carefully monitored, each utility must maintain a certain amount of "extra" or reserve capacity in the event that demand rises above forecasted levels. This additional amount of generating capacity is expressed as a percentage of firm demand and is referred to as the "reserve margin."

Reserve margins in Florida typically remain well above the FRCC minimum of 15 percent for most of the year, and usually will only approach minimum levels in the summer peak season when air conditioning loads are at their highest levels. The higher margins during winter peak seasons are also due to the fact that generating units can operate at a higher capacity in colder temperatures.

Figure 8 is a graphical representation of the aggregate reserve margin for Peninsular Florida's electric utilities over the current planning horizon. Because Gulf uses a different method to calculate its reserve and is not affiliated with the FRCC, the figure does not include Gulf. The values in the figure include both supply-side and demand-side contributions.

[6] Gulf Power Company, the only TYSP utility that is not part of Peninsular Florida, is affiliated with SERC, another electric reliability organization authorized by NERC.

Figure 8. FRCC: Peninsular Reserve Margin Projections



Source: FRCC's 2011 Load & Resource Plan, p. 29

DEMAND-SIDE MANAGEMENT

In recent years, the standards for appliance efficiency and building codes have gradually been increased in Florida in order to maximize energy savings. However, the responsibility for reducing the state's dependence on fossil fuels and improving the environment falls largely on consumers. Encouraging consumers to make responsible choices is extremely important in controlling load and energy usage. Customers that are made aware of energy-saving behaviors which can result in reduced energy use and lower bills are much more likely to participate in utility-sponsored DSM and conservation programs.

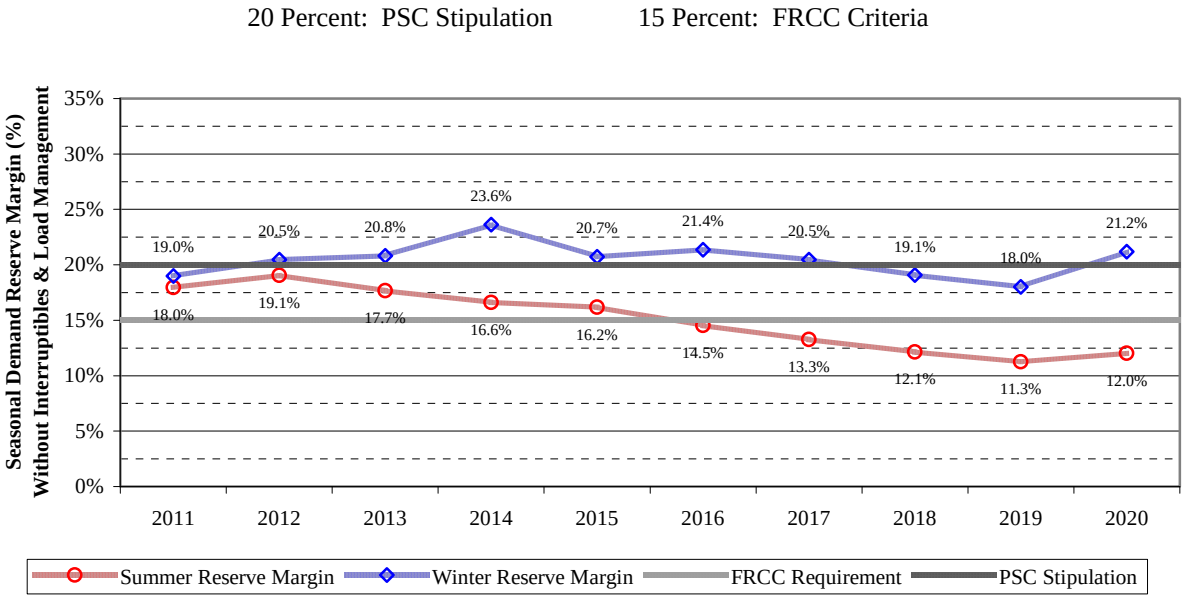
Demand-side management reduces peak demand and energy requirements, resulting in the deferral of need for new generating units. Utilities have made DSM programs available to customers since 1980, based on the requirements of the Florida Energy Efficiency and Conservation Act (FEECA).[7] FEECA emphasizes reducing the growth rates of weather-sensitive peak demand, reducing and controlling the growth rate of electricity consumption, reducing the consumption of scarce resources such as petroleum fuels, and encouraging use of renewable fuels. To meet these objectives, FEECA requires that the Commission establish conservation and DSM goals and requires all IOUs and all municipal and cooperative utilities with annual energy sales of at least 2,000 GWh as of July 1, 1993, to implement DSM programs to meet the goals established by the Commission. The seven utilities in Florida subject to FEECA are FPL, FPUC, Gulf, JEA, OUC, PEF, and TECO.[8] The Commission regulates electric utility conservation measures and programs pursuant to Rules 25-17.001 through 25-17.015, F.A.C.

[7] Sections 366.80-366.85 and 403.519, F.S.
[8] Florida Public Utilities Company (FPUC) is subject to FEECA requirements because it is an IOU, but it is not required to file a Ten-Year Site Plan with the Commission because it does not generate electrical energy.

Before a utility can be granted a determination of need to build new supply-side generation, it must demonstrate to the Commission that it has maximized all possible demand-side resources, including both conservation (or energy efficiency) and load management programs. Load and energy savings from conservation or non-dispatchable DSM programs, such as ceiling insulation installation, enable utilities and customers to realize sustained energy savings over time. Dispatchable DSM, such as load management and interruptible load programs, are measures that allow reductions in system peak demand when needed. Monetary incentives are offered in exchange for the utility's control over the availability of certain appliances for residential customers, or the interruption of specific services to a commercial or industrial customer.

Figure 9 illustrates the impact of DSM on the aggregate reserve margin for Florida's electric system. It is clear that DSM plays a crucial role in the provision of reserve capacity. Utilities may choose to maintain a minimum generation-only reserve margin, due to the fact that most DSM programs are strictly voluntary. Because the system reliability for Florida's utilities are becoming increasingly dependent on DSM, some utilities have or are considering a minimum generation-only level of reserve capacity.

Figure 9. FRCC: Peninsular Reserve Margin Projections Without Load Management



Source: FRCC's September 7, 2011 TYSP Workshop Presentation, slide 10

All of the utilities have prepared their 2011 Ten-Year Site Plans incorporating the goals set by the Commission in December 2009, and all utilities except FPL and PEF have had DSM plans based on those goals approved by the Commission. In July 2011, the Commission found that the DSM Plans based on the 2009 goals filed by both FPL and PEF would have an undue impact on the costs passed on to consumers, and that the public interest would be served by requiring modifications to those Plans. Therefore, the Commission modified the Plans of FPL

and PEF, such that the DSM Plans of both utilities consist of those programs that were already in effect.[9]

[9] Orders No. PSC-11-0346-PAA-EG in Docket No. 100155-EG, and PSC-11-0347-PAA-EG in Docket No. 100160-EG, issued August 16, 2011.

RENEWABLE ENERGY

Federal Legislation

In 1978, the U.S. Congress enacted the Public Utility Regulatory Policies Act (PURPA)[10]. PURPA endorsed three broad national purposes: (1) conservation of electric energy, (2) increased efficiency in the use of facilities and resources by electric utilities, and (3) equitable rates for electricity consumers. Section 210 of Title II, entitled "Cogeneration and Small Power Production," required electric utilities to interconnect and sell electric energy to qualifying cogeneration and small power production facilities, referred to as Qualifying Facilities, or QFs, and to purchase electric energy from these facilities at the utility's full avoided cost. The Federal Energy Regulatory Commission (FERC) subsequently adopted rules to implement PURPA. In addition, states were delegated authority to implement the FERC rules for electric utilities over which they have rate making authority.[11] In 1980, the FERC issued its rules establishing the criteria for determining the qualifying status of a facility and setting out regulations for electric utility interconnection with QFs, along with sales to and purchases from QFs.[12]

State Legislation

In 1981, the Florida Legislature authorized the Commission to establish guidelines for the purchase and sale of capacity and energy from cogenerators and small power producers, which includes renewable generators. In 1989, the statutes were broadened with the enactment of Section 366.051, F.S., which provides, in part, the following:

> Electricity produced by cogeneration and small power production is of benefit to the public when included as part of the total energy supply of the entire electric grid of the state or consumed by a cogenerator or small power producer. The electric utility in whose service area a cogenerator or small power producer is located shall purchase, in accordance with applicable law, all electricity offered for sale by such cogenerator or small power producer; or the cogenerator or small power producer may sell such electricity to any other electric utility in the state. The Commission shall establish guidelines relating to the purchase of power or energy by public utilities from cogenerators or small power producers and may set rates at which a public utility must purchase power or energy from a cogenerator or small power producer. In fixing rates for power purchased by public utilities from cogenerators or small power producers, the Commission shall authorize a rate equal to the purchasing utility's full avoided costs. A utility's "full avoided costs" are the incremental costs to the utility of the electric energy or capacity, or both, which, but for the purchase from cogenerators or small power producers, such utility would generate itself or purchase from another source.

[10] Public Law 95-617 (HR 4018) November 9, 1978.
[11] PURPA at Title II, section 210(f); In Florida, the Florida Public Service Commission has ratemaking jurisdiction over five investor-owned electric utilities: Florida Power & Light Company (FPL), Progress Energy Florida (PEF), Gulf Power Company (Gulf), Tampa Electric Company (TECO), and Florida Public Utilities Company (FPUC).
[12] 18 C.F.R. 292.101 through 18 CFR 292.602.

In 2005, the Legislature enacted Section 366.91, F.S., which requires investor-owned utilities to continuously offer purchase contracts to producers of renewable energy, and adopts the avoided cost standard as defined in Section 366.051, F.S. Section 366.91, F.S., also defines the term "renewable energy" as follows:

> "Renewable energy" means electrical energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power. The term includes the alternative energy resource, waste heat, from sulfuric acid manufacturing operations and electrical energy produced using pipeline-quality synthetic gas produced from waste petroleum coke with carbon capture and sequestration.

Commission Rules

Renewable facilities are permitted to enter into two types of contractual agreements for selling power: standard offer and negotiated contracts. Under these contracts, the energy can be sold as either "firm" or "as-available," depending on the characteristics of the output of the facility. When the output is continuous, except for occasional shutdowns for maintenance and repair, the utility also makes payments for the dependable capacity. These contract and payment options are outlined in Rule 25-17.0825 and Rule 25-17.0832, F.A.C.

Standard Offer Contracts

Standard offer contracts are pre-approved contracts for the purchase of firm capacity and energy from any renewable generating facility or small qualifying facility. Rule 25-17.230, F.A.C., requires each investor-owned electric utility to establish a standard offer contract for each fossil-fueled generating unit type identified in the utility's Ten-Year Site Plan. The renewable energy generator is allowed to select from a number of payment options that best fits its financing requirements as long as the total cumulative present value of such payments do not exceed full avoided cost, and adequate security for front-end loaded payments is provided. For example, the Commission rules allow for levelized payments over the life of the contract which may include both capacity and energy costs.

Negotiated Contracts

Renewable generating facilities are encouraged to negotiate purchased power contracts with investor-owned electric utilities pursuant to Rule 25-17.240, F.A.C. Payments made to a qualified renewable generator under a negotiated contract may be recovered from ratepayers by the purchasing utility as long as the cumulative present value of the payments do not exceed the utility's full avoided cost and adequate security for front-end loaded payments is provided.

Renewable Payment Types

Firm capacity payments: Firm capacity is capacity (MW) produced and sold by a renewable energy generator pursuant to a standard offer contract or a negotiated contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Firm capacity is purchased at a rate specified in a contract which is equal to the utility's avoided capacity cost or

at a negotiated rate which may not exceed the utility's avoided capacity cost. Full avoided cost is calculated by determining the cumulative present value of a year-by-year value of deferring each avoided unit over the term of the contract.

Firm energy payments: Firm energy is energy (kWh) produced and sold by a renewable energy generator pursuant to a negotiated contract or a standard offer contract subject to contractual commitments as to the quantity, time, and reliability of delivery. Generally, the rate of payment for firm energy, in cents per kWh, is the lesser of the fuel cost associated with the avoided unit or the utility's system decremental fuel cost.

As-available energy payments: As-available energy is energy (kWh) produced and sold by a renewable energy generator on an hour-by-hour basis for which contractual commitments as to the quantity, time, or reliability of delivery are not required. As-available energy is purchased at a rate in cents per kilowatt hour (kWh) equal to the utility's hourly decremental system fuel cost, which reflects the highest fuel cost of generation dispatched each hour. No capacity payments are made for as-available energy because no reliability benefits are received.

Renewable Resource Outlook

In 2003, the Commission, in consultation with the Florida Department of Environmental Protection (FDEP), completed the 2003 Renewable Energy Assessment Report to identify renewable energy viability in Florida. According to the report, the most feasible sources of renewable energy in Florida are from biomass materials, such as agricultural waste products or wood residues, and industrial waste heat. The 2003 report also stressed that technical feasibility does not ensure economic cost-effectiveness when determining energy resource production.

The Commission, in conjunction with the U.S. Department of Energy and the Lawrence Berkeley National Laboratory, retained Navigant Consulting, Inc. to prepare a detailed assessment of Florida's renewable potential. The 2008 Navigant Consulting Renewable Energy Potential Assessment (the 2008 Navigant Consulting Report) reported on the existing renewable conditions and the projected potential for renewable development in Florida through 2020, compared cost-effective differences, and considered the potential levels of economic impact future renewables may have. The 2008 Navigant Consulting Report substantiated the Commission's 2003 assessment by observing that the majority of Florida's existing renewables consist of solid biomass plants and municipal solid waste facilities. Although the 2008 Navigant Consulting Report considered solar technologies to have the largest technical potential of any renewable resource in Florida, only a portion of this potential can actually be economically achieved at this time.

The 2008 Navigant Consulting Report described the comparison of the technical or physical potential versus the achievable potential for renewable energy development in Florida. For example, although the technical potential for solar power in Florida may be relatively high according to Navigant Consulting, cost-effectiveness and siting issues significantly reduce the achievable potential to commercially develop solar energy technology. The driving forces to the expansion and sustainability of the renewable market depend on the overall value of renewable energy, a basis that is determined by the financial environment as well as government regulation

and support. As noted in the 2008 Navigant Consulting Report, a favorable scenario for the renewable market which has meaningful growth in Florida assumed the following:

1. High fossil fuel costs
2. Access to low cost capital and debt rates
3. Continual government rebate programs and tax incentives
4. Established pricing of CO_2 emissions
5. Formation of a Renewable Energy Certificate (REC) market

Since the 2008 Navigant Consulting Report was completed, economic and policy conditions have generally coincided with the unfavorable scenario for future renewable development. Specifically, Navigant Consulting assumes natural gas costs to be $5-$6/MMBtu in the unfavorable scenario. Natural gas is currently trading at approximately $4.20/MMBtu. Most forecasts project natural gas prices to increase over the long term. In the unfavorable scenario, the cost of debt was estimated to be approximately 8.5 percent, the cost of equity approximately 14 percent, and ready access to debt would make up 50 percent of renewable project financing. Credit markets are still tight for small businesses, and obtaining financing for renewable energy projects will be much more difficult for a smaller company than for a large utility. In the unfavorable scenario, Navigant Consulting estimated that Florida's solar rebate program would expire in 2010, with a $5 million annual funding level. The Florida Energy and Climate Commission was authorized to provide $25.4 million in rebates for solar energy equipment between 2006 and 2009. Currently the authorized budget has been depleted. Also, the unfavorable scenario for carbon pricing assumes $0/ton initially, then scaling to $10/ton by 2020. Currently, there is no federal or state policy establishing carbon pricing. Finally, no Renewable Energy Credit (REC) market has yet been established in Florida.

EXISTING RENEWABLE RESOURCES

Currently, renewable energy facilities provide approximately 1,300 MW of electric generation capacity, which represents 2.3 percent of Florida's overall generation capacity of 57,605 MW in 2011.[13] Pursuant to current state and federal law, payments made by utilities to generation facilities using renewable energy sources are capped at the utility's avoided cost for capacity and energy. Compared to figures in the 2010 Ten-Year Site Plan Review, existing renewable generation facilities have grown by approximately 6.82 percent (83.2 MW). Table 3 summarizes Florida's existing renewable resources.

[13] Total MW capacities are based on summer ratings.

Table 3. State of Florida: Existing Renewable Resources

Fuel Type	Capacity (MW)
Solar	112.4
Wind	0.0
Biomass	379.4
Municipal Solid Waste	408.6
Waste Heat	285.9
Landfill Gas	52.6
Hydro	43.5
Total	**1282.4**

Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

Firm Capacity Contracts

Almost 30 percent of all renewable capacity in Florida is from firm capacity contracts, which are required to provide a particular amount of capacity for a specified period of time pursuant to contractual obligations. Approximately 79 percent of these firm contracts are with municipal solid waste (MSW) facilities. The remainder of firm capacity generation is from third-party landfill and woody biomass gas production facilities. Although the majority of firm capacity is purchased by investor-owned utilities, a significant portion (112.8 MW) is purchased by Seminole Electric Company (SEC).[14] Table 4 lists the existing contracts for firm capacity from renewable generation units.

The acronyms for renewable fuel types used in the following tables are defined below:

AB: Biomass—agricultural byproducts

LFG: Landfill gas

MSW: Municipal Solid Waste

OBG: Biomass—gases (other than landfill gas)

SUN: Solar

WAT: Hydro (water)

WDS: Biomass—wood waste solids

WH: Waste Heat

[14] Seminole Electric is a rural electric cooperative utility providing generation and transmission services to 13 member distribution cooperatives in peninsular Florida.

Table 4. State of Florida: Contracts for Firm Renewable Energy

Purchasing Utility	Facility Name	Fuel Type	Contracted Firm Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	Broward-North	MSW	11.0	1992
FPL	Broward-South	MSW	3.5	1991
FPL	Palm Beach County	MSW	50.0	2005
PEF	Dade County Resource Recovery	MSW	43.0	1991
PEF	Lake County Resource Recovery	MSW	12.8	1990
PEF	Pasco County Resource Recovery	MSW	23.0	1991
PEF	Pinellas County Resource Recovery	MSW	54.8	1983
PEF	Ridge Generating Station	WDS	39.6	1994
TECO	City Of Tampa Refuse-To-Energy	MSW	21.0	1985
	Subtotal of IOUs		**258.7**	
Municipal Utilities				
GRU	G2 Energy	LFG	3.8	2008
JEA	Trailridge	LFG	9.0	2008
	Subtotal of Municipals		**12.8**	
Cooperative Utilities				
SEC	Brevard Energy	LFG	9.0	2008
SEC	Seminole Landfill	LFG	6.2	2007
SEC	Timberline Energy	LFG	1.6	2008
SEC	Lee County Resource Recovery	MSW	45.0	1999
SEC	Telogia Power, LLC	WDS	13.0	2004
SEC	Hillsborough Waste to Energy	MSW	38.0	2010
	Subtotal of Cooperatives		**112.8**	
	Total		**384.3**	

Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

Significant changes in the firm contracts since 2010 include the formerly firm 95.5 MW from the Broward-North and Broward-South facilities to be sold as non-firm energy to FPL. Also, the energy and capacity sold by Hillsborough Waste to Energy Facility was transferred from FPL to SEC. Additionally, SEC is expected to negotiate a contract with the City of Tampa Refuse-To-Energy Facility to purchase 19.0 MW following the expiration of the existing contract with TECO in August of 2011.

Non-Firm Renewable Energy Generators

In addition to the 384 MW of firm capacity described in Table 4 above, renewable energy facilities also produce about 732 MW of non-firm capacity for sale to utilities on an as-available basis. Energy purchased on an as-available basis is considered non-firm capacity, and therefore cannot be counted on by Florida's utilities for reliability purposes. The energy produced by these providers, however, do contribute to the avoidance of burning fossil fuels in existing generators. Table 5 details the various non-firm energy contracts.

Table 5. State of Florida: Non-Firm Renewable Energy Generators

Purchasing Utility	Facility Name	Fuel Type	Non-Firm Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	MMA FLA LP	SUN	0.3	2007
FPL	Georgia Pacific	WDS	52.0	1983
FPL	New Hope / Okeelanta	AB	140.0	1985
FPL	Tomoka Farms	LFG	3.8	1998
FPL	WM Renewable Energy	LFG	8.0	2010
FPL	Broward South	MSW	50.5	2009
FPL	Broward North	MSW	45.0	2011
GULF	Bay County Solid Waste	MSW	11.0	2008
GULF	Stone Container*	AB	25.0	1960
GULF	International Paper Company*	WDS	43.0	1983
PEF	TMC*	WDS	38.0	2006
PEF	Potash Of Saskatchewan*	WH	42.0	1986
TECO	South Pierce*	WH	23.0	1969
TECO	New Wales*	WH	65.0	1984
TECO	CF Industries*	WH	34.9	1988
TECO	Ridgewood*	WH	77.0	1992
TECO	Millpoint*	WH	44.0	1995
TECO	City of Tampa Sewage	OBG	1.5	1989
	Subtotal of IOUs		**704.0**	
Municipal Utilities				
FMPA	US Sugar Corporation	AB	26.5	1984
GRU	Solar FIT Program/Net Meter	SUN	1.5	2009
LAK	Lakeland Center (Solar)	SUN	0.3	2010
	Subtotal of Municipals		**28.3**	
	Total		**732.3**	

* These facilities represent partial or full generation for self-service purposes only. The self-service portion of the facilities do not generate energy to be put on the grid, but are still considered for renewable energy generation in a local level.

Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

Existing Utility-Owned Renewable Facilities

Several utilities also own renewable facilities, utilizing a wide range of technologies. Table 6 lists some of the larger utility-owned resources, which consist mostly of non-firm or intermittent resources.

Table 6. State of Florida: Existing Utility Owned Renewable Generation

Utility	Facility Name	Fuel Type	Capacity (MW)	Commercial In-Service Date
Investor-Owned Utilities				
FPL	DeSoto	SUN	25.0	2009
FPL	Martin	SUN	75.0	2010
FPL	Space Coast Next Generation	SUN	10.0	2010
GULF	Perdido 1	LFG	1.5	2010
GULF	Perdido 2	LFG	1.5	2010
Various	Distributed Solar Installations (Aggregate)	SUN	0.1	Varies
	Subtotal of IOUs		**113.1**	
Municipal Utilities				
JEA	North Landfill*	LFG	(gas sub. only)	1997
JEA	Girvin Landfill	LFG	1.2	1999
JEA	Buckman	OBG	0.8	2003
OUC	Co-Fired Stanton Energy Center	LFG	7.0	1998
TAL	Corn Hydro	WAT	0.0	1985
Various	Distributed Solar Installations (Aggregate)	SUN	0.2	Varies
	Subtotal of Municipals		**9.2**	
Other Utilities				
UCEM	Jim Woodruff	WAT	43.5	1957
	Subtotal of Others		**43.5**	
	Total		**165.8**	

* The North Landfill facility does not generate electricity, but provides a partial fuel substitute for nearby natural-gas unit generation.
Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

Because most of the energy produced is non-firm, the majority of these renewable facilities serve more to reduce fossil fuel consumption than to provide system capacity. Among some of the recent notable additions to utility-owned renewables are the construction and operation of three solar generators by FPL. The DeSoto, Martin, and Space Coast facilities are the largest solar facilities in Florida.[15] Gulf Power has recently commissioned two landfill gas generation facilities, Perdido 1 and 2, to provide that utility with a total of 3.0 MW of firm energy and capacity.

Self-Service Facilities

In addition to the facilities detailed above, which provide renewable energy to the transmission grid through contracts or as-available energy tariffs, several self-service facilities also produce energy from renewable resources. Firms with facilities such as these do not deliver

[15] The DeSoto and Space Coast facilities are direct energy-producing photovoltaic facilities, whereas the Martin facility uses thermal heat to create replacement steam for a pre-existing steam turbine usually supplied through fossil fuel generation.

energy to the grid, but rather use the renewable energy produced to meet or reduce their own energy requirements. Like non-firm renewables, these facilities cannot be counted on for reliability purposes, but they do still contribute to the reduction of Florida's dependence on fossil fuel-fired generation.

Existing Net Metering

Net metering is an arrangement between a utility and a customer with renewable generation capability whereby the customer's energy usage is offset by the amount of energy generated. The net meter keeps account of the amount of energy generated and the amount consumed, and if the energy consumed by the customer is less than that produced by the renewable generator, then the utility will credit the customer's account for the excess amount of energy produced. Conversely, the customer will be billed for any net energy consumed that exceeds the energy generated.

In April 2008, the Commission amended Rule 25-6.065, F.A.C., on interconnection and net metering for customer-owned renewable generation. The rule requires the IOUs to offer net metering for all types of renewable generation up to 2 MW in capacity and a standard interconnection agreement with an expedited interconnection process. Customers first benefit from such renewable systems by reducing their energy purchases from the utility. Net metering provides an additional benefit by allowing customers with excess renewable energy production to reduce future energy purchases from the utility.

The Commission's rule requires all electric utilities to annually report data associated with interconnection and net metering programs. Data submitted in April 2010 show that the number of customers owning renewable generation systems in Florida continues to grow. Electric IOUs report that 1,876 customers owned solar photovoltaic systems in 2010, up from 1,044 in 2009. For all electric utilities, about 20,404 kilowatts (20.4 MW) of solar photovoltaic capacity from 2,833 systems have been installed statewide. Table 7 displays the information on customer-owned renewable generation for 2010 reported by Florida's utilities.

Table 7. State of Florida: Customer Owned Renewable Generation

Utility Type	Connections	Non-Firm Capacity (MW)
Investor-Owned	1,876	13.0
Municipal	494	4.1
Rural Electric Cooperatives	463	3.3
Total	**2,833**	**20.4**

Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

PLANNED RENEWABLES ADDITIONS

Florida's utilities plan to construct or purchase an additional 765.6 MW of renewable generation over the ten-year planning period. The expected major contributors to actual energy

generation are planned biomass resources. Table 8 summarizes the overall proposed planned increases by generation type of all utilities.

Table 8. State of Florida: Planned Renewable Resource Net Additions

Fuel Type	Capacity (MW)
Solar	504.5
Wind	0.0
Biomass	308.0
Municipal Solid Waste	75.0
Waste Heat	0.0
Landfill Gas	18.1
Hydro	0.0
Total	**905.6**

Sources: FRCC 2011 Load & Resource Plan, Utilities' 2011 TYSPs

On the following pages, Table 9, Table 10, and Table 11 provide detailed lists of the renewable resources planned for construction in Florida over the ten-year planning horizon. Table 9 shows that, of the renewable firm capacity planned over the ten-year horizon, the majority is biomass and MSW that will be purchased by IOUs. As of January 2011, firm capacity contracts represent 49 percent of total planned renewable additions.

Table 9. State of Florida: List of Planned Renewable Firm Capacity

Purchasing Utility	Facility Name	Fuel Type	Capacity (MW)	In-Service Date
Investor-Owned Utilities				
FPL	Solid Waste Authority of Palm Beach	MSW	40.0	2015
PEF	BG&E #1	WDS	45.0	2012
PEF	FB Energy	AB	60.0	2014
PEF	Trans World Energy	WDS	40.0	2013
	Subtotal		**185.0**	
Municipal Utilities				
GRU	Gainesville Renewable Energy Center	WDS	100.0	2013
JEA	Trailridge	LFG	9.1	2011
OUC	Holopaw	LFG	5.3	2011
OUC	Port Charlotte	LFG	3.7	2012
TAL	Renewable Fuels Tallahassee	MSW	35.0	2013
	Subtotal		**153.1**	
Cooperative Utilities				
SEC	Southeast Renewable Fuels	AB	25.0	2012
	Sub-Total		**25.0**	
	Total		**363.1**	

Source: FRCC Load & Resource Plan, Utilities' 2011 TYSPs

Pursuant to current state and federal law, payments made by utilities to generation facilities utilizing renewable energy sources are capped at the utility's avoided cost for capacity and energy. Since last year's reporting, planned firm additions have decreased with the completion of facilities and the cancellation of several pending contracts. PEF reported that BG&E had cancelled a planned 75 MW woody biomass facility. Additionally, three facilities proposed by Hathaway totaling 48 MW have been withdrawn. However, several new additions were included in the ten-year planning period, such as PEF's contract with Trans World Energy for 40 MW and FPL's 40 MW uprate of the existing Solid Waste Authority facility. Municipal utilities GRU and TAL plan to contract renewable centers for combined purchases of 135 MW, while OUC is expecting to purchase power from two LFG facilities with a total output of 9 MW.

Table 10 shows that most of the non-firm capacity planned in Florida will be purchased by IOUs. These additions are almost exclusively solar powered. The largest planned addition in solar purchases will be through a series of as-available contracts between Progress Energy and a third-party solar producer, National Solar.

Table 10. State of Florida: List of Planned Renewable Non-Firm Capacity

Purchasing Utility	Facility Name	Fuel Type	Capacity (MW)	In-Service Date
Investor-Owned Utilities				
PEF	Eliho	WDS	8.0	2011
PEF	E2E2	WDS	30.0	2012
PEF	Blue Chip Energy #1	SUN	50.0	2010
PEF	National Solar #5-10	SUN	400.0	Varies
	Subtotal		**488.0**	
Municipal Utilities				
GRU	Solar FIT Program	SUN	8.4	Varies
LAK	Thermal Solar Facility	SUN	15.0	2011-2016
LAK	Unknown Solar Facility	SUN	24.0	2011-2017
OUC	Regenesis Stanton Energy Center	SUN	5.9	2012
OUC	CNL/City Hall	SUN	0.5	2012
OUC	GSLD Solar	SUN	0.7	2012
	Subtotal		**54.5**	
	Total		**542.5**	

Source: FRCC Load & Resource Plan, Utilities' 2011 TYSPs

National Solar plans to construct five individual stand-alone solar facilities with targeted in-service dates of mid-2013, and PEF will purchase the entire output from National Solar. As of the date of the contract filings, the combined facilities' generation will contribute 400 MW of non-firm power.

In the 2011 TYSPs, utilities reported very little utility-owned renewable facility additions. Table 11 shows that the remaining planned additions consist of small solar projects that generate less than 100 kilowatts of non-firm capacity.

Table 11. List of Planned Utility-Owned Renewable Additions[16]

Purchasing Utility	Facility Name	Fuel Type	Capacity (MW)	In-Service Date
Municipal Utilities				
OUC	Harmony	SUN	0.005	2013
TAL	Jake Gaither Golf	SUN	0.015	2011
TAL	StarMetro	SUN	0.010	2011
GRU	Administration Building Atrium	SUN	0.001	2011
	Subtotal		**0.020**	
	Total		**0.020**	

Source: FRCC Load & Resource Plan, Utilities' 2011 TYSPs

[16] Data provided from the 2011 Ten-Year Site Plans and FRCC's 2011 Regional Load and Resource Plan.

In the previous plan year, FPL announced its intention to expand its existing DeSoto Solar Facility in two phases with an additional 49 MW by 2011 and 226 MW by 2013. However, as of the date of this report, FPL has withdrawn their Site Certification Application for the proposed project and did not include any expansion plans for the DeSoto facility in its 2011 TYSP report.

UPDATED NAVIGANT CONSULTING REPORT

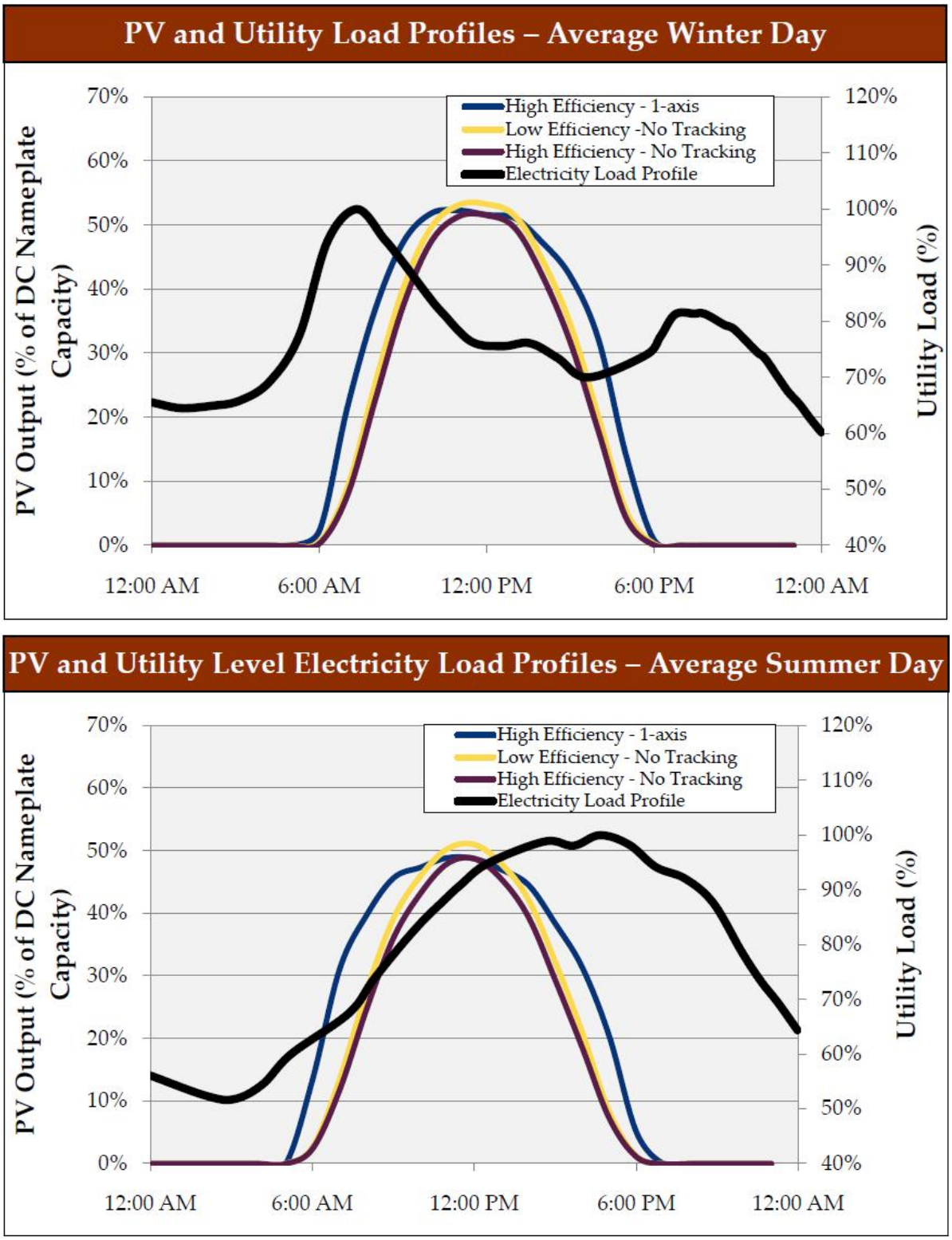
The Commission contracted with Navigant Consulting in early 2010 to update its 2008 analysis with current conditions. In June 2010, Navigant Consulting released new comparisons of cost estimates for different renewable generating facilities. Navigant Consulting also provided additional detail pertaining to Florida's renewable resource which it identified as having the most technical potential for growth, solar photovoltaic facilities. Findings from the report are summarized below.

In the 2010 Navigant Consulting Report Update, the most meaningful findings include changes in prices of renewable technologies. PV module prices have fallen and commodity costs for PV units have decreased during the recession, but both are returning to near their pre-recession levels. Wind power prices have also decreased due to the recession, while utility turbine prices have risen as worldwide demand catches up with supply. According to the 2010 Navigant Consulting Report Update, no large performance breakthroughs occurred for any technology. Because Navigant Consulting found solar resources to hold the most potential in Florida, the remainder of the 2010 Navigant Consulting Report Update focuses on solar power.

The 2010 Navigant Consulting Report Update estimates that solar power systems have increased in efficiency while overall prices have decreased up to 40 percent since 2008. In spite of these changes, solar power systems continue to have some of the highest capital costs per kW of any renewable generating system. Varying the methods of using solar energy involving solar tracking technology and alternating solar film receptors produces a slight range of energy output and net capacity factors. In addition, the ability of solar PV systems to provide energy are limited to daytime hours. Supplemental battery storage units may alleviate this issue, but the costs of batteries are not included in Navigant Consulting's estimates.

Even with these advancements, capacity factors of solar panels are projected to remain below 25 percent. Such results indicate that solar PV facilities operate more like a conventional peaking unit and will not replace the need for base-load generating facilities. However, Navigant Consulting also reported that operating characteristics for these systems do not correlate with daily peak load hours. As shown in Figure 10, Navigant Consulting estimates that the peak output from solar PV facilities reaches a maximum of approximately 50 percent of the rated capacity, and occurs after the system's winter peak hour and before the system's summer peak hour. As a result, a solar PV facility's ability to provide reliability benefits appears limited.

Figure 10. Solar PV Output and Utility Seasonal Load Profiles



TRADITIONAL GENERATION

Current demand and energy forecasts continue to indicate that in spite of increased levels of conservation, energy efficiency, and renewable generation, the need for traditional generating capacity still exists. While reductions in demand have been significant, the total demand for electricity and the per capita consumption continue to increase making the addition of traditional generating units necessary to satisfy reliability requirements and provide sufficient electric energy to Florida's consumers. Because any capacity addition has certain economic impacts based on the capital required for the project, and due to increasing environmental concerns relating to solid fuel-fired generating units, Florida's utilities must carefully weigh the factors involved in selecting a supply-side resource for future traditional generation projects.

In addition to traditional economic analyses, utilities also consider several strategic factors, such as fuel availability, generation mix, and environmental compliance prior to selecting a new supply-side resource. Limited supplies, pipeline considerations, and fluctuating costs are considerations for selection of natural gas generators, while water supply and consumption, land area limitations, access to delivery options, environmental concerns, and cost of emission controls are factors for selection of coal units. High construction costs, very long lead times, uncertainty over spent fuel disposal, and most recently the crisis at the Fukushima nuclear plant in Japan are considerations for selection of nuclear generation.

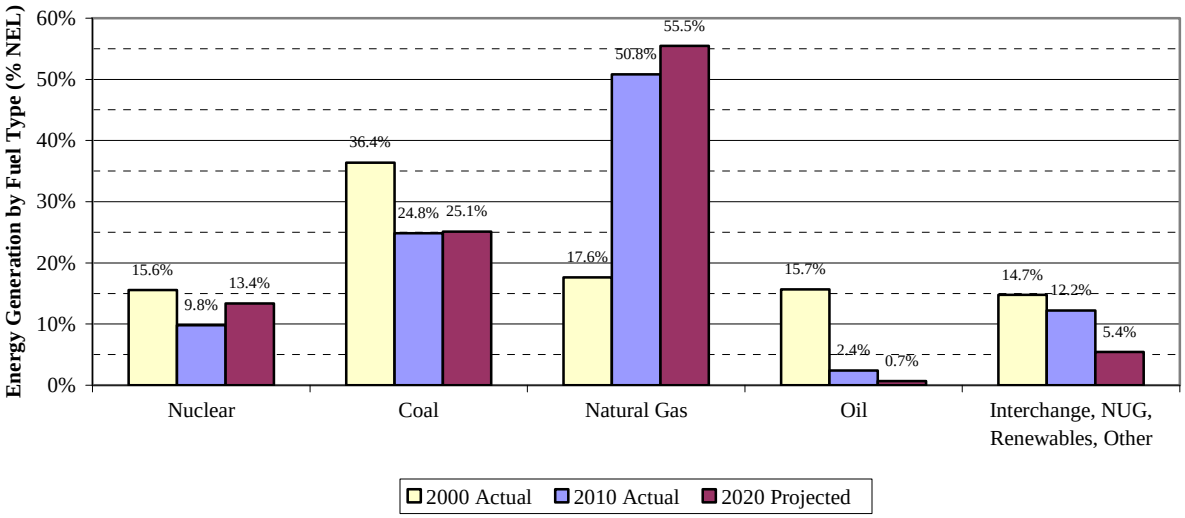
Gas fired units have almost exclusively been selected in recent years due to higher thermal efficiencies, lower capital costs, shorter periods for permitting and construction, and sometimes the smaller land areas required. In past years, a key factor in choosing between natural gas and coal was the number of years required for a coal unit to become cost effective. Higher up-front construction costs result in higher customer risk associated with uncertainty over fuel cost differential. As the price difference between natural gas and coal widened, the break-even period decreased. In other words, as gas prices rose faster than coal prices, the number of years required for fuel savings to outweigh coal's higher construction costs decreased.

In the last ten years, almost 97 percent of all capacity additions to Florida's electric system use natural gas as the primary fuel. Coal units that were planned have been cancelled, and nuclear units that have been approved have been delayed beyond the planning horizon. Currently, other than approximately 900 MW of renewable generation, all of the additional generation planned for the next ten years will use natural gas as a fuel source.

FUEL DIVERSITY

The continued addition of natural gas-fired generating units has once again produced an electric system in Florida that is heavily dependent on a single fuel source. As Figure 11 shows, more than 50 percent of the electric energy in Florida is natural gas-fired.

Figure 11. State of Florida: Energy Generation by Fuel Type (Percent of Total)



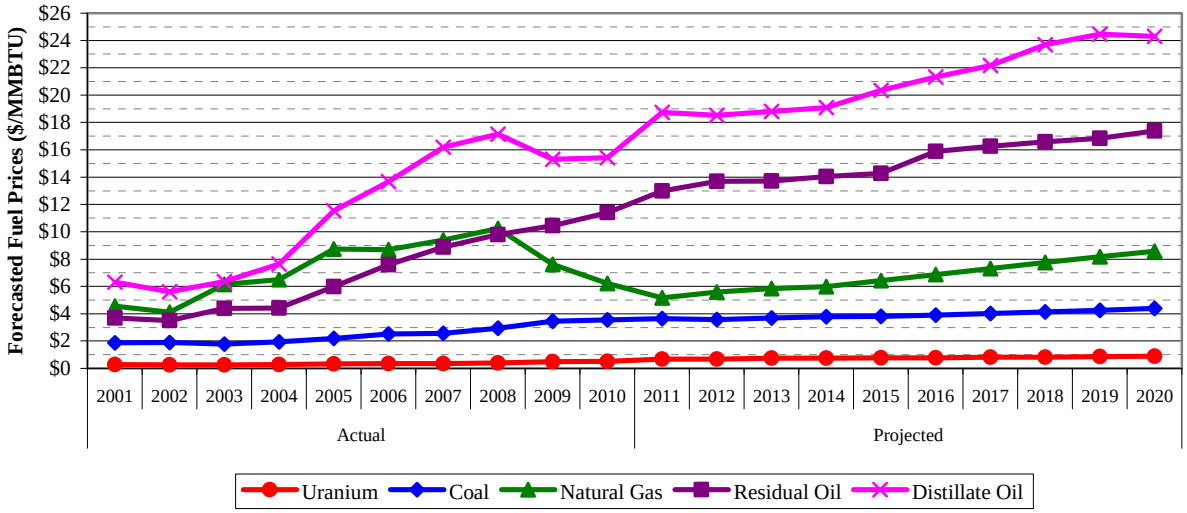
Source: FRCC's 2001 and 2011 Load & Resource Plans

Fuel Price Forecasts

Fuel price forecast is the primary factor affecting the type of generating unit added by an electric utility. In general, the capital cost of a generating unit is inversely proportional to the cost of the fuel used to generate electricity from that unit. Historically, when the forecasted price difference between coal or nuclear and natural gas was small, the addition of a natural gas unit became the more attractive option. As the fuel price gap widened, a coal-fired or nuclear unit would normally be the more likely choice. However, this situation does not necessarily hold true presently.

From 2003 to 2005, the price of natural gas was substantially higher than utilities had forecasted. This disparity led to concern regarding escalating customer bills and an expectation that natural gas prices would continue to be high and extremely volatile. As a result, Florida's utilities began making plans to build coal-fired units rather than continuing to increase the reliance on natural gas. However, as Figure 12 shows, the price of natural gas began to return to more historic levels after peaking in 2008, and has declined in the years since. Forecasts predict that gas prices will increase at a steady level throughout the planning horizon.

Figure 12. Reporting Utilities: 2010 Weighted Average Fuel Price Forecast



Source: Response to FPSC Data Request

Previous Ten-Year Site Plan reviews indicated that increases in gas prices may bring an end to the almost exclusive addition of natural gas-fired generation. As can be seen from Figure 12, the expectation of high prices for natural gas has not materialized and although it is forecasted to increase steadily, the rate of increase is more moderate than was previously contemplated.

Utility plans for a balanced fuel system have historically been highly dependent on the accuracy of long-term fuel price forecasts, mostly due to the long lead times required for coal and especially nuclear generators. However, in recent years the options available to utilities for the addition of supply-side generation have been severely limited, and this situation seems unlikely to change at this time. Utilities will be faced with selecting technologies for new generation that will either continue to increase the already very high percentage of natural gas resources, or attempting to obtain approval for solid fuel resources that may have a negative near term rate impact.

SUMMARY OF RESOURCE ADDITIONS

The Florida Public Service Commission is given exclusive jurisdiction by the Legislature, through the Power Plant Siting Act, to be the forum for determining the need for new electric power plants. Any proposed steam or solar generating unit of at least 75 MW requires certification under the Power Plant Siting Act. The Commission has granted determinations of need for several generating units of various technology types in recent years, although virtually all of the units actually constructed have been natural gas-fired.

The following tables are a representation of all changes to generation systems that appear in the 2011 TYSPs for the reporting utilities. Table 12 shows all additional generating units as well as all unit retirements, uprates, and decreased purchases.

Table 12. State of Florida: Proposed Capacity Changes As Reported

Fuel Type	Unit Type	Summer Capacity Changes (MW)	
		2010 Forecast (2010-2019)	2011 Forecast (2011-2020)
Natural Gas	Combined Cycle	5,232	7,846
	Combustion Turbine	623	1,379
	Steam	-276	-147
Coal	Steam	-45	23
	Integrated Coal Gasification	-15	0
Oil	Combustion Turbine & Diesel	-68	0
	Steam	-2,444	-696
Nuclear (NUC)	Steam	1,658	631
Firm Purchases	Independent Power Producer (IPP)	-482	-512
	Interchange	-746	-754
	Non-Utility Generator (NUG)	-234	-137
	Renewables	0	0
NET CAPACITY ADDITIONS		**3,203**	**7,632**

Source: FRCC's 2010 and 2011 Load & Resource Plans

Table 13 contains all the planned additional combustion turbine units listed. Because these units do not utilize steam, they are not required to obtain PPSA certification or a determination of need by the Commission.

Table 13. State of Florida: Combustion Turbine Generation Additions

Utility	Generating Unit Name	Summer Capacity (MW)	In-Service Date
OUC	Stanton Energy Center	185	4 / 2017
PEF	Unknown	178	6 / 2018
TECO	Future CT 1	56	5 / 2013
TECO	Future CT 2	56	5 / 2013
TECO	Future CT 3	56	5 / 2013
TECO	Future CT 4	56	5 / 2014
TECO	Future CT 5	56	5 / 2015
TECO	Future CT 6	56	5 / 2016
TECO	Future CT 7	56	5 / 2017
TECO	Future CT 8	56	5 / 2018
TAL	Hopkins CT 5	46	5 / 2020
SEC	Unnamed CT1	158	12 / 2018
SEC	Unnamed CT2	158	5 / 2019
SEC	Unnamed CT3	158	5 / 2019
SEC	Unnamed CT4	158	12 / 2020
SEC	Unnamed CT5	158	12 / 2020
SEC	Unnamed CT6	158	12 / 2020

Source: Responses to FPSC Data Request

Table 14 displays the new combined cycle generating units planned by the reporting utilities. These units do require PPSA certification and a determination of need. Dashes instead of dates denote units which have not yet obtained a need approval or PPSA certification.

Table 14. State of Florida: Combined Cycle Generation Additions

Utility	Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
			Need Approved (Commission)	PPSA Certified	
FPL	West County Energy Center 3	1219	Sep-08	Nov-08	Jun-11
FPL	Cape Canaveral NGCEC	1210	Sep-08	Aug-09	Jun-13
FPL	Riviera NGCEC	1212	Sep-08	Nov-09	Jun-14
FPL	Port Everglades Modernization	1277	---	---	Jun-16
FPL	Greenfield CC Unit #2	1191	---	---	Jun-20
TECO	Polk 2-5 CC 1	970	---	---	May-19
FMPA	Cane Island Unit 4	300	Aug-08	Dec-08	May-11
SEC	Unnamed CC1	196	---	---	Dec-20
SEC	Unnamed CC2	196	---	---	Dec-20
PEF	Unsited CC	767	---	---	Nov-20

Source: Responses to FPSC Data Request

Table 15 shows the planned uprates to the nuclear units for FPL and PEF. Because the return to service of PEF's Crystal River Unit 3 has been delayed until 2014, the uprate project will almost certainly be delayed past the listed date of May, 2013.

Table 15. State of Florida: Nuclear Generation Uprates

Primary Utility Owner*	Uprated Generating Unit Name	Added Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
			Need Approved (Commission)	PPSA Certified	
FPL	St. Lucie 1	122	Jan-08	Sep-08	3/2012
FPL	Turkey Point 3	109	Jan-08	Oct-08	6/2012
FPL	St. Lucie 2 *	110	Jan-08	Sep-08	10/2012
FPL	Turkey Point 4	109	Jan-08	Oct-08	2/2013
PEF	Crystal River 3	154	Feb-07	Aug-08	11/2014

* Several of Florida's nuclear units are jointly owned. For simplicity, the majority owner is listed here.
Source: Responses to FPSC Data Request

INVESTOR OWNED UTILITIES

- **Florida Power & Light**
- **Progress Energy Florida**
- **Tampa Electric Company**
- **Gulf Power Company**

FLORIDA POWER & LIGHT (FPL)

Florida Power & Light (FPL) is the state's largest investor-owned utility, with a service area of approximately 27,650 square miles in South Florida and along the eastern coast of Florida. FPL had an average of more than 4,520,000 customers in 2010. FPL's electric system consists of 87 generating units at sixteen sites in Florida, with a total summer system generation of 23,722 MW. In addition, FPL has partial ownership of three coal facilities located outside its service territory, two in Jacksonville and one in Georgia. FPL is a vertically integrated utility with more than 6,700 circuit miles of transmission lines and 586 substations included in its system.

In 2010, FPL's total net energy for load (NEL) was 114,373 GWh. This figure is approximately 46 percent of the NEL generated in the entire state for that year.

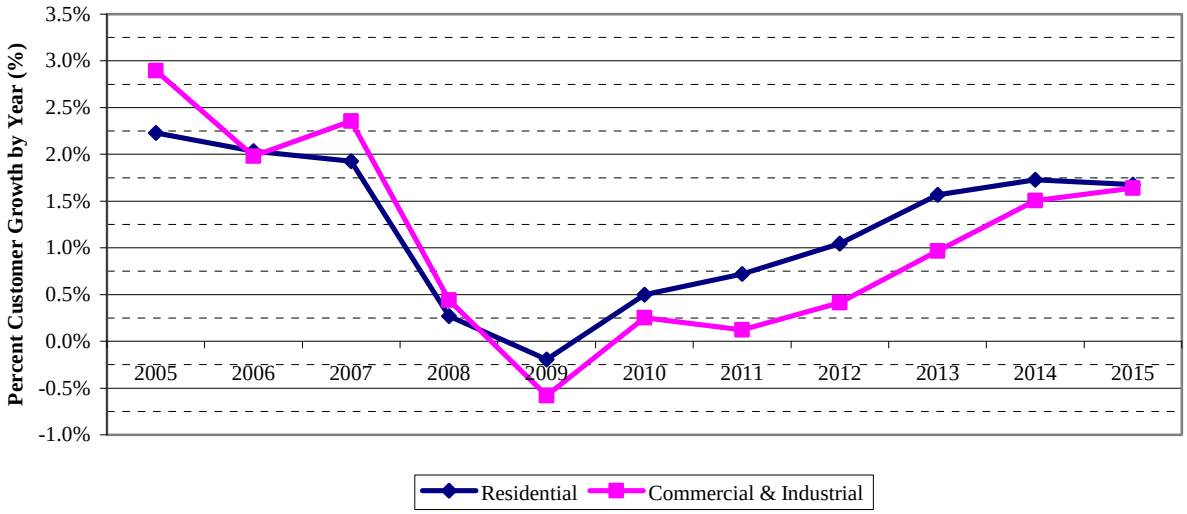
Peak Demand and Energy Forecasts

FPL develops forecasts for energy and peak loads which are based on economic conditions and weather data. Projections for the national and Florida economy, population growth, and weather variables are all important factors in the development of forecasts for energy sales and peak demand.

The economic conditions in the current plan year are similar to those of the previous year, but signs that a recovery is underway are beginning to emerge. Population growth has begun to improve, but FPL does not expect its growth in customers to reach the level historically experienced until 2014-2015.

Figure 13 is a graphical representation of the negative customer growth experienced by FPL over the past five years, and the slow return to positive growth it expects for the next five years. The data for 2005 through 2010 are actual, and 2011 through 2015 are projected.

Figure 13. FPL: Customer Growth Rates

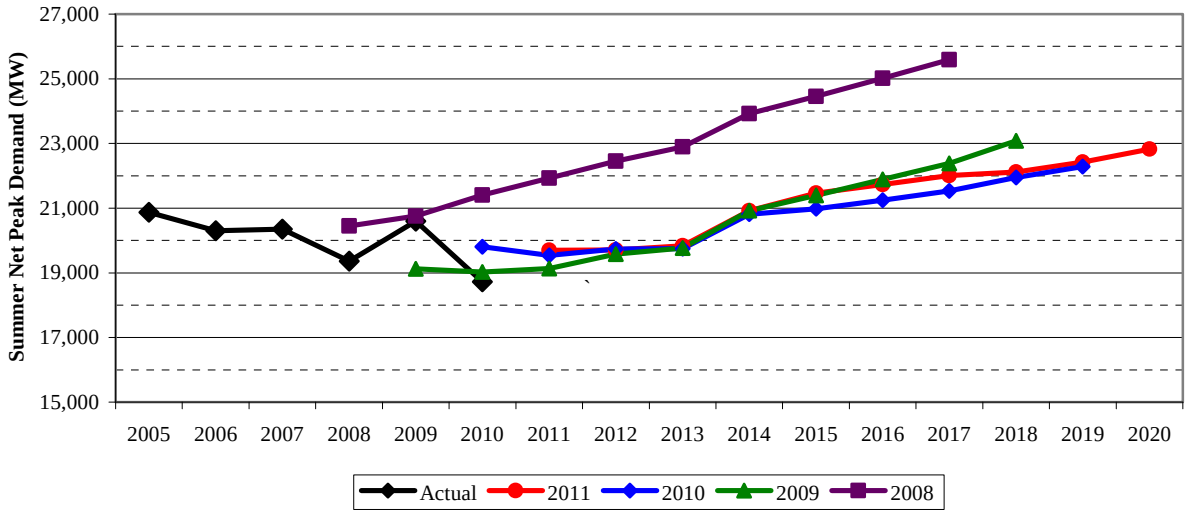


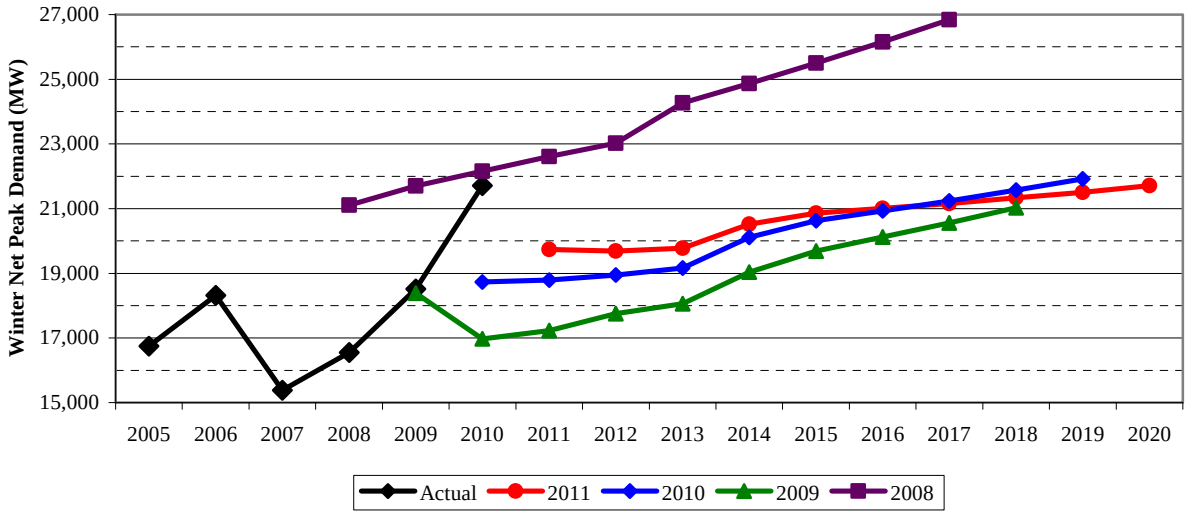
Source: FPL 2011 TYSP

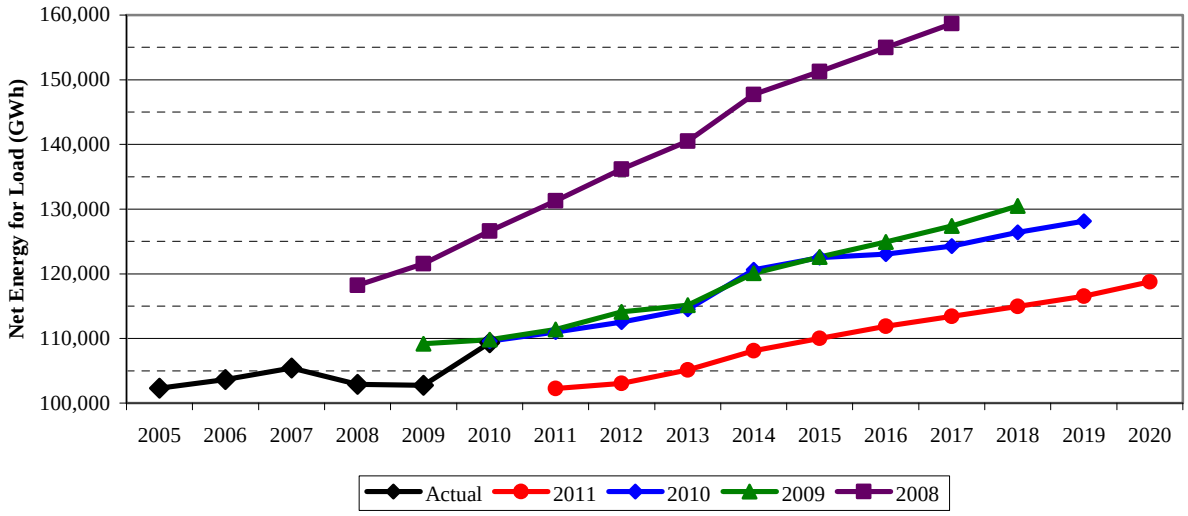
The following three graphs in Figure 14 show FPL's actual peak demand for both the summer and winter seasons, and NEL for the years since 2005. The forecasted values are also shown through the current planning horizon. These figures clearly show that the current forecasts for summer and winter peak demand are very similar to the 2010 levels, only somewhat flatter. However, the current NEL forecast has been adjusted downwards by approximately 10,000 GWh. The actual value for winter peak demand in 2010 is higher than was expected, due to an unusually cold winter season.

Analysis of FPL's historical forecast accuracy for total retail energy sales from 2006 through 2010 shows that FPL's average forecast error is 4.24 percent. This value indicates that FPL tends to over-forecast its retail energy sales by 4.24 percent, which is almost twice the average forecast error for all eleven of the Ten-Year Site Plan utilities. When all the reporting utilities' average error rates are combined, the resulting composite average error rate is 2.44 percent.

Figure 14. FPL: Demand & Energy Forecasts







Demand-Side Management

The DSM goals for FPL set in 2009 were higher than the goals previously set in the 2004 goal-setting proceeding. FPL's 2011 Ten-Year Site Plan includes the 2009 goals in its calculations for reserve margin. However, due to concern that implementing the DSM Plan filed by FPL in 2010 would result in an undue rate impact on customers, the Commission modified FPL's DSM Plan such that it would consist of those programs that were already in place.[17] The overall result of this decision is that the savings in demand and energy resulting from the approved DSM Plan will be somewhat smaller what is reflected in FPL's 2011 TYSP.

Reliability Criteria

As mentioned in the Statewide Perspective section of this review, FPL maintains a minimum 20 percent reserve on its system. Figure 15 displays the projected reserve margin for FPL through the planning horizon for both the summer and winter peak periods. The figure shows that FPL is projecting to meet or exceed its minimum reserve margin throughout the ten-year planning period.

The reserve shown in Figure 15 is inclusive of the values for DSM that were established in 2009. Since the actual savings from DSM will most likely be lower than what was projected in FPL's 2011 Ten-Year Site Plan, the reserve could be somewhat lower than what is shown in Figure 15.

In its 2011 Plan, FPL expresses concern regarding the increasing dependence on DSM in its planning reserve. This situation is of concern because DSM, load control, and interruptible load programs are strictly voluntary, involving only customers that choose to participate in them. These customers can and do opt out of such programs, especially following a period wherein the utility has exercised interruption of service more often than usual. As shown in Figure 16, when taking only supply-side resources into consideration, the level of reserve for the summer peak season drops to between approximately 10 and 15 percent. For this reason, FPL has indicated that it is studying the possibility of instituting a generation-only minimum reserve.

[17] Order No. PSC-11-0346-PAA-EG in Docket No. 100155-EG, issued August 16, 2011.

Figure 15. FPL: Reserve Margin Projections

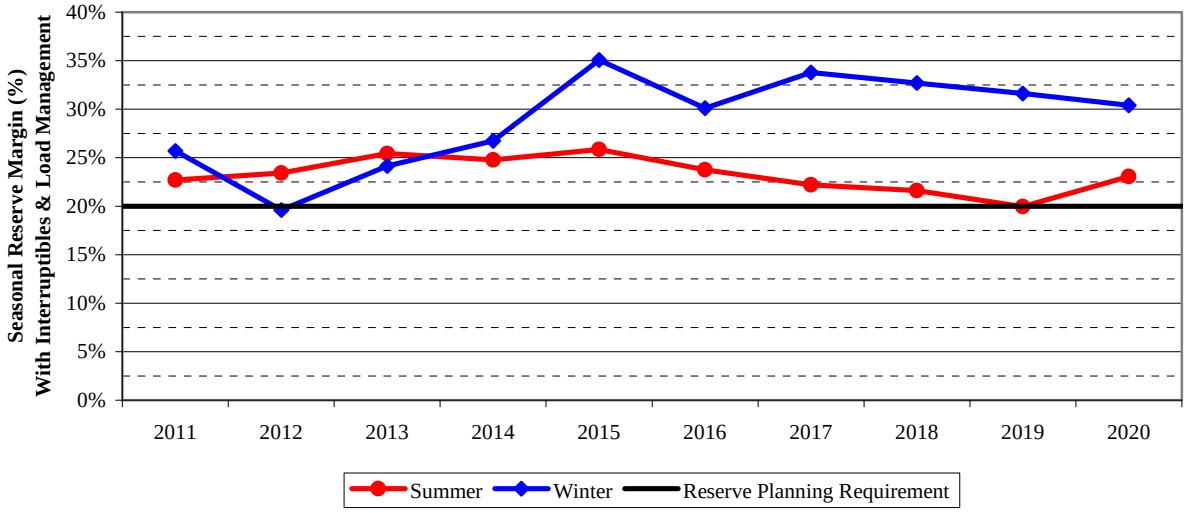
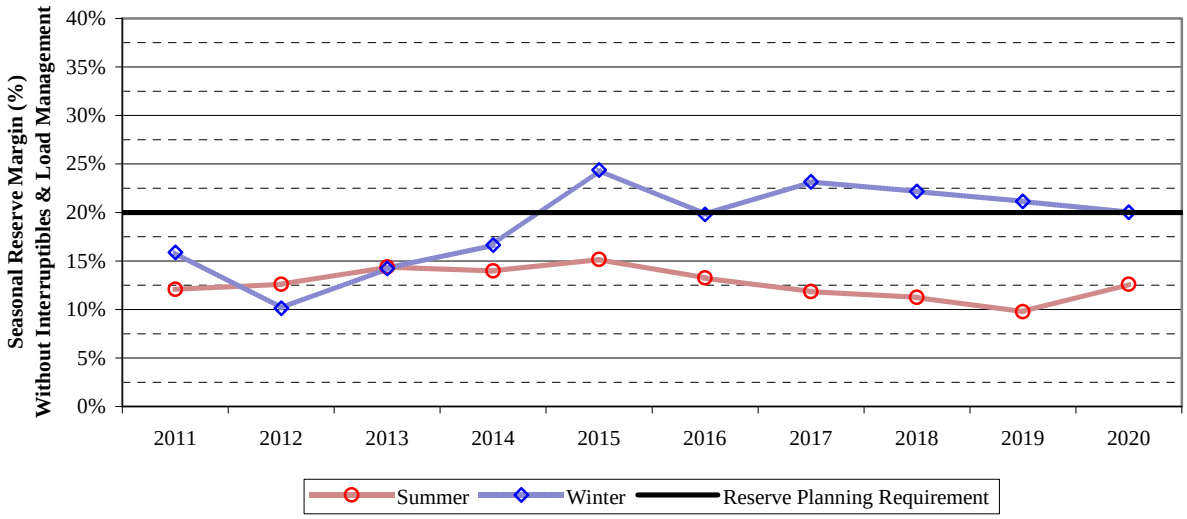


Figure 16. FPL: Generation-Only Reserve Margin Projections

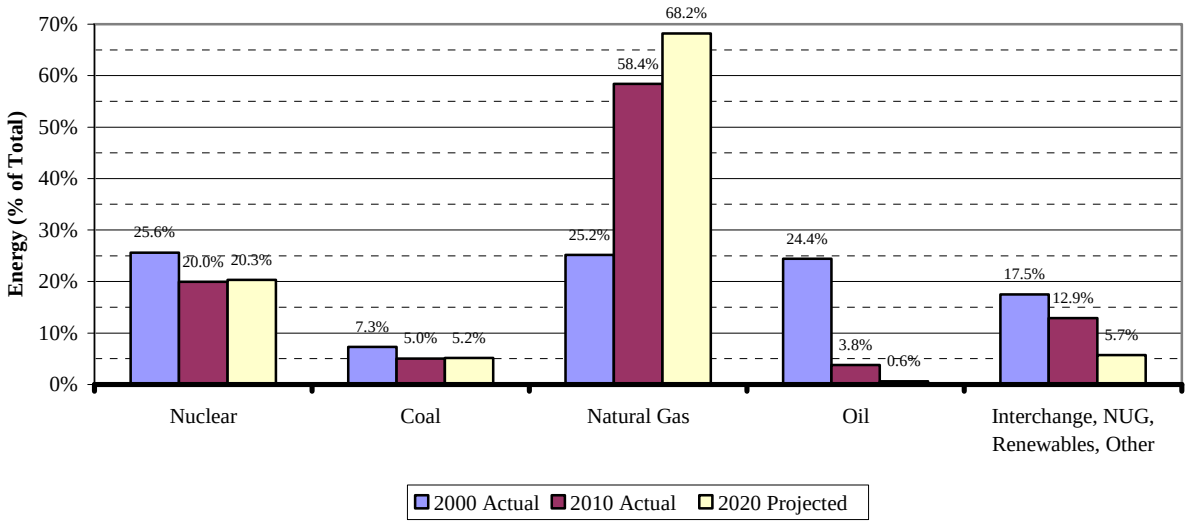


FPL's 2011 Ten-Year Site Plan reports that it would need to begin scheduling planned maintenance of its generating units during peak demand periods, thereby reducing the available capacity at those critical times. However, FPL later informed the Commission that it has determined that under current operating parameters the required maintenance may be performed during the non-peak periods. This change lowers FPL's projected resource needs in all future years by 350 MW of capacity, and the net effect of this change is to increase the reserve margin by approximately 1.8 percent.

Fuel Diversity

Figure 17 clearly shows the importance of natural gas in FPL's system. In 2010, more than 58 percent of the energy generated by FPL was produced from natural gas-fired units. This share of energy generated is projected to increase to more than 68 percent by the end of the planning horizon.

Figure 17. FPL: Energy Generation by Fuel Type (Percent of Total)



Source: FPL 2001 and 2011 TYSPs

Generation Additions

FPL's 2011 TYSP includes two new combined cycle generation units that did not appear in the 2010 Plan. The 2011 Plan indicates that these two new units are to come into service in 2016 and 2020, and that the sites could be greenfield, brownfield, or modernizations of existing units.

Since submitting its 2011 Plan, FPL has notified the Commission that the new greenfield unit scheduled to be in-service in 2016 will in fact be a modernization of an existing generation facility. FPL filed a petition for an exemption to the bid rule for the modernization of its Port Everglades plant, which currently consists of four 1960's era oil and natural gas-fired steam electric generating units totaling 1,200 MW of generating capacity, and replacing them with a highly efficient, state-of-the-art combined cycle power plant with up to 1,280 MW of generation. All of the new generation units that FPL is planning to add to its system are shown in Table 16.

Table 16. FPL: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Additions (uprates)				
St. Lucie 1 Extended Power Uprate	122	Jan-08	Sep-08	3/2012
Turkey Point 3 Extended Power Uprate	109	Jan-08	Oct-08	6/2012
St. Lucie 2 Extended Power Uprate	110	Jan-08	Sep-08	10/2012
Turkey Point 4 Extended Power Uprate	109	Jan-08	Oct-08	2/2013
Combined Cycle Unit Additions				
West County Energy Center 3	1219	Sep-08	Nov-08	6/1/2011
Cape Canaveral NGCEC	1210	Sep-08	Aug-09	6/1/2013
Riviera NGCEC	1212	Sep-08	Nov-09	6/1/2014
Port Everglades Modernization	1277	None yet	None yet	6/1/2016
Greenfield CC Unit #2	1191	None yet	None yet	6/1/2020

Source: Responses to FPSC Data Requests

PROGRESS ENERGY FLORIDA (PEF)

Progress Energy Florida (PEF) is Florida's second largest investor-owned utility, with a service area of approximately 20,000 square miles in central and west central Florida, including the cities of St. Petersburg and Clearwater, and the areas surrounding Orlando. PEF had approximately 1,613,000 customers in 2010. PEF's system included 63 generating units, and has a total summer system capacity of approximately 9,950 MW installed, and almost 1,800 MW of firm purchased capacity. PEF's system also includes approximately 5,000 circuit miles of transmission lines.

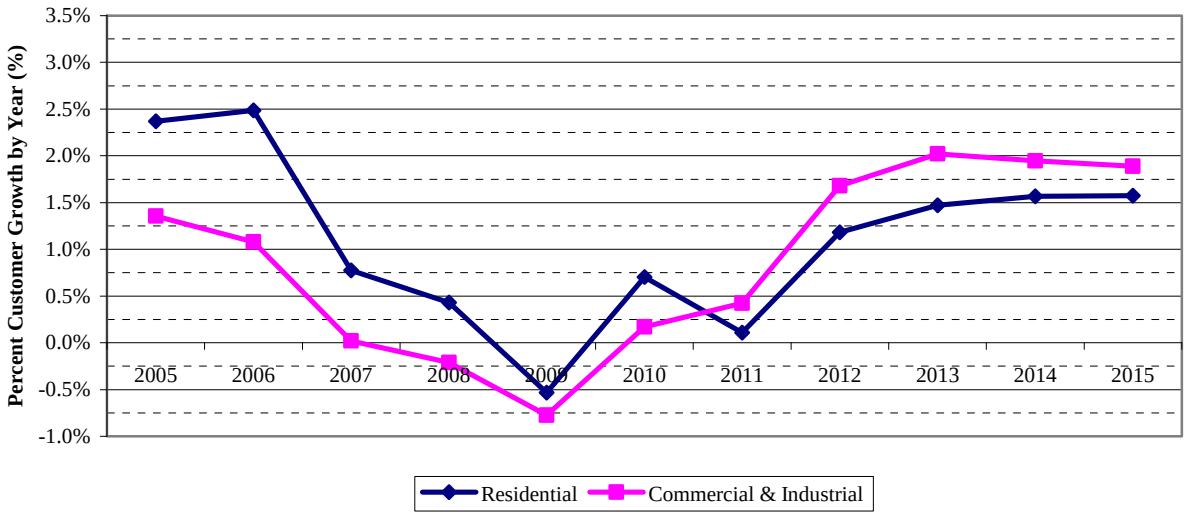
In 2010, PEF generated 46,160 GWh, which represents approximately 19 percent of the NEL in the entire state for that year.

Peak Demand and Energy Forecasts

PEF develops economic, demographic, and weather-related assumptions upon which its forecasts are based. These assumptions specify major factors that influence the level of customers, energy sales, or peak demand over the forecast horizon.

Figure 18 shows that, like most other electric utilities in Florida, PEF experienced negative growth in customers during the 2008-2010 period. However, PEF expects improved customer growth going forward due to improved economic conditions. PEF expects a growth rate in customers of 1.5 percent for the planning horizon, which is slightly higher than the previous ten-year average.

Figure 18. PEF: Customer Growth Rates



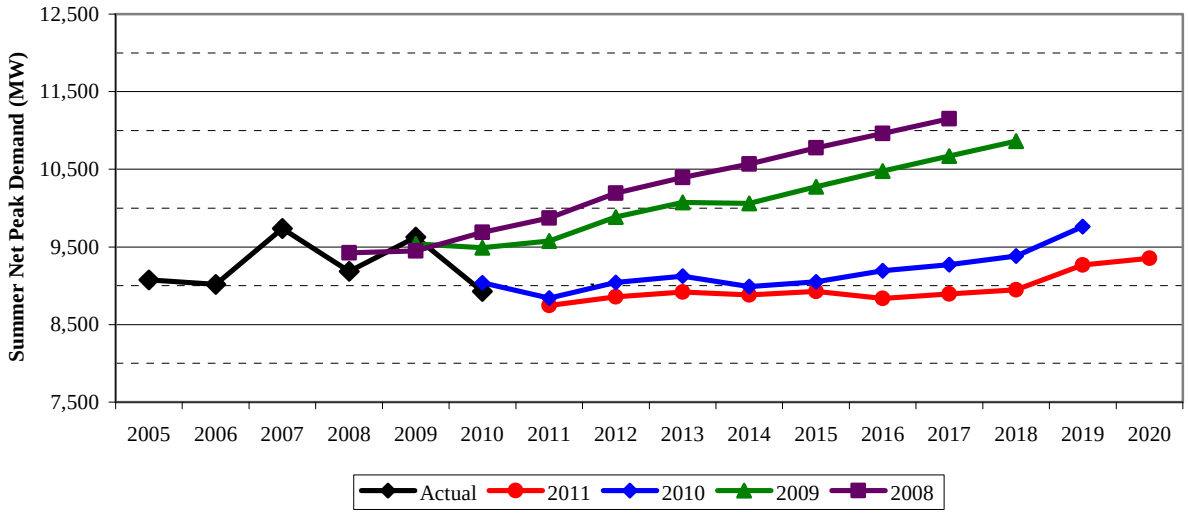
Source: PEF 2011 TYSP

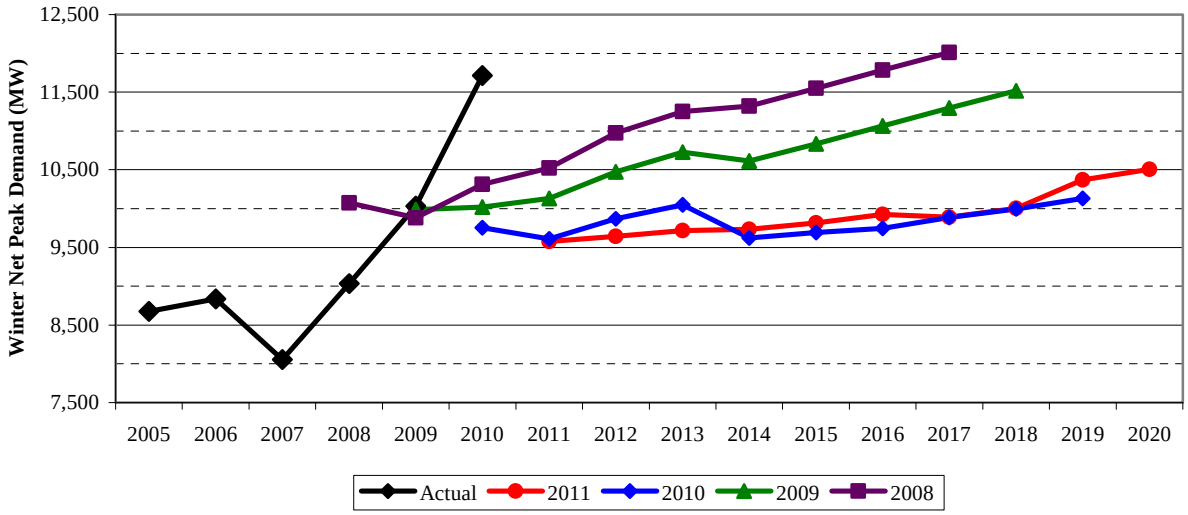
The expected growth rates for NEL and summer net firm demand are 1.6 percent and 0.8 percent, respectively. These growth rates are slightly lower than the rate of growth experienced in the previous ten-year period. Factors influencing these rates are a return to a normal weather summer peak, and negative wholesale summer peak growth from the 2010 MW level.

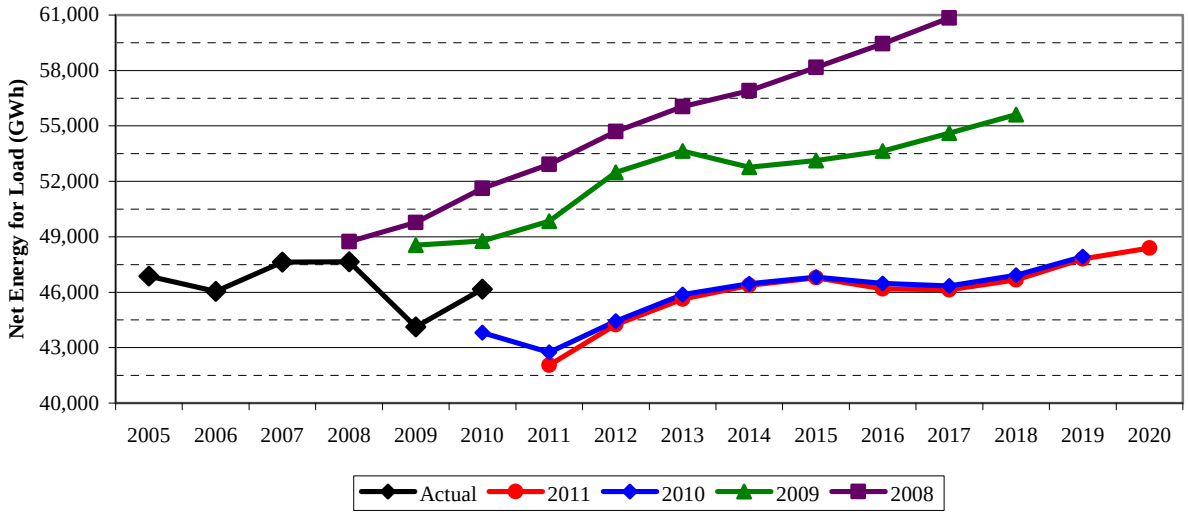
The following three graphs in Figure 19 illustrate PEF's relatively unchanged forecasts for summer demand, winter demand, and NEL for the current planning horizon. The actual value for winter peak demand in 2010 is higher than was forecasted because the winter season was unusually cold.

Analysis of PEF's historical forecast accuracy for total retail energy sales from 2006 through 2010 shows that PEF's average forecast error is 1.73 percent. This value indicates that PEF tends to over-forecast its retail energy sales by 1.73 percent. When compared with the overall average error rate of all reporting utilities, which is 2.44 percent, PEF's average error rate is lower. This result shows that PEF's forecasting is more accurate than the statewide average.

Figure 19. PEF: Demand & Energy Forecasts







Demand-Side Management

The DSM goals for PEF set in 2009 were higher than the goals set in the 2004 goal-setting proceeding. PEF's 2011 Ten-Year Site Plan includes the 2009 goals in its calculations for reserve margin. However, due to concern that the DSM Plan filed by PEF in 2010 would have an undue impact on the costs passed on to consumers, the Commission modified PEF's 2010 DSM Plan such that it would consist of those programs that were already in place.[18] The overall result of this decision is that the savings in demand and energy will be somewhat smaller than the DSM savings reflected in PEF's 2011 TYSP.

Reliability Criteria

PEF also maintains a 20 percent reserve margin, pursuant to a 1999 stipulation. Figure 20 displays the forecasted reserve margin for PEF throughout the planning horizon for both summer and winter peak periods. This figure shows that PEF's level of reserve is well above the minimum for most years, and only approaches the 20 percent minimum in the last year.

The high level of reserve shown in Figure 20 is indicative of the aggressive DSM goals on which PEF's 2011 Plan was based. Since the actual demand and energy savings from DSM will likely be lower, the actual reserve margin could be somewhat lower than what is shown in Figure 20.

Figure 21 is a graphical representation of the "generation-only" portion of PEF's reserve margin, which is the resulting level of reserve after contributions from load management and interruptible programs are removed from the calculation. This non-firm load can be considered as reserve capacity because, when the system load increases such that all generation reserve is committed, the utility can reassign system resources away from customers on load management and interruptible programs in order to serve its firm load. However, maintaining sufficient levels of generation reserve is important because implementing these types of programs on a regular basis can lead to customers opting out of such programs.

Both Figure 20 and Figure 21 display the PEF reserve margins modified from the values presented in PEF's 2011 TYSP. PEF states in its 2011 Plan that its nuclear generating unit, Crystal River Unit 3 (CR3), would become operational in 2011. However, since that time PEF has announced that it now expects that CR3 will not be back in-service until 2014. Therefore, any generation from CR3 in the years 2011-2014 was removed from the data used to develop the following two figures in order to provide a more accurate picture of PEF's reserve margin in those years.

[18] Order No. PSC-11-0347-PAA-EG in Docket No. 100160-EG, issued August 16, 2011.

Figure 20. PEF: Reserve Margin Projections

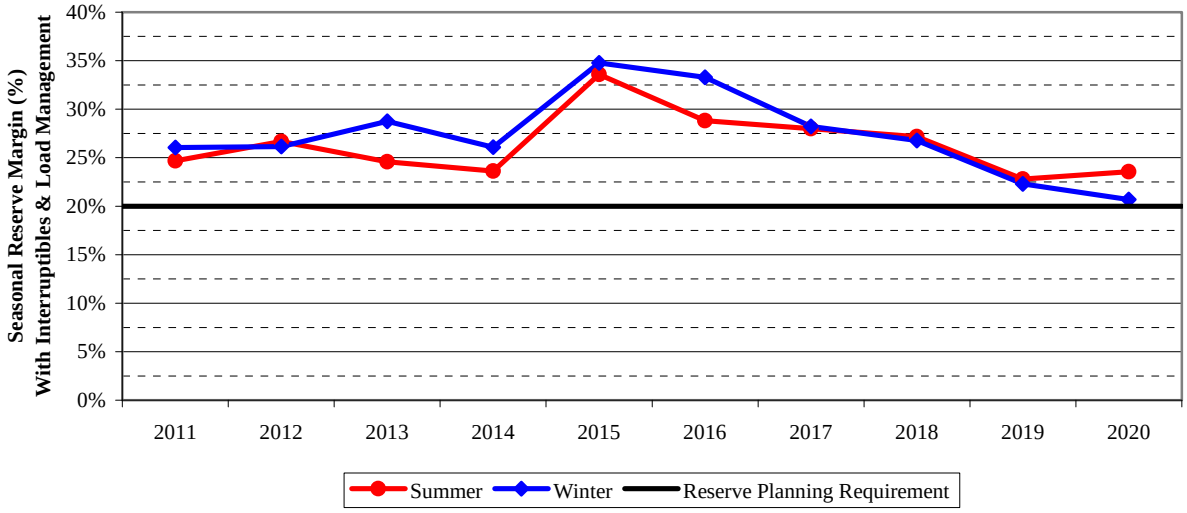
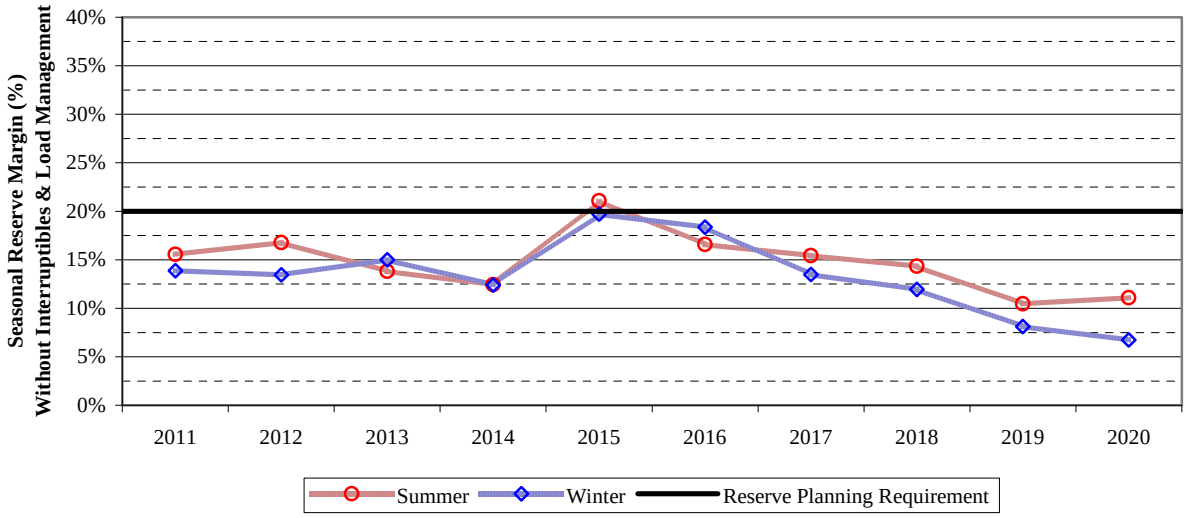


Figure 21. PEF: Generation-Only Reserve Margin Projections

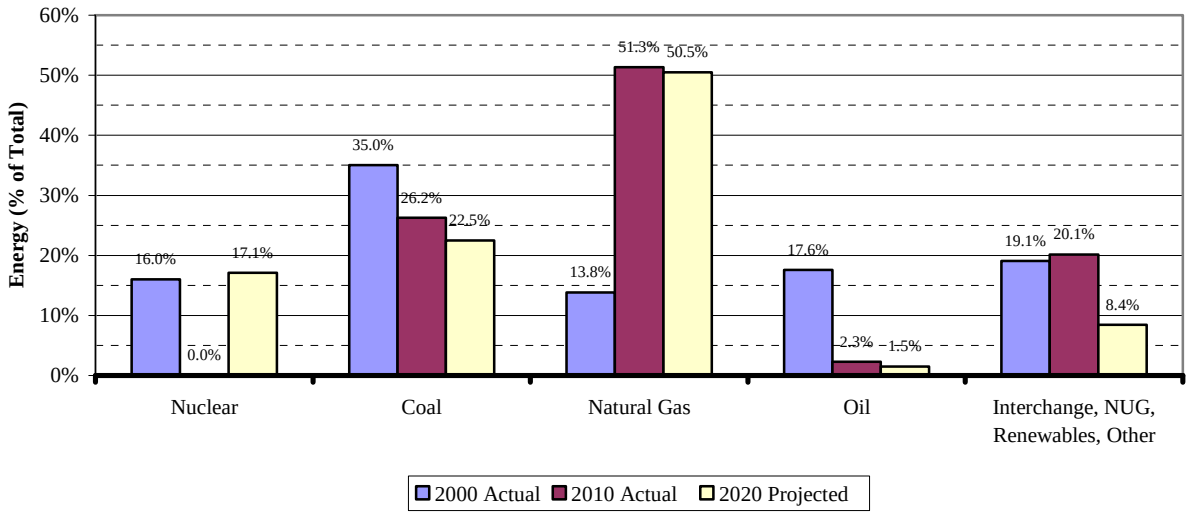


Source: PEF 2011 TYSP, Responses to FPSC Data Requests

Fuel Diversity

Unlike FPL, Figure 22 shows that PEF's system composition is not projected to change substantially throughout the ten-year planning horizon.

Figure 22. PEF: Energy Generation by Fuel Type (Percent of Total)



Source: PEF 2001 and 2011 TYSPs

The fact that PEF's nuclear unit, CR3, has been out of service since October 2009 has affected PEF's unit utilization. Nuclear generation represents 8 percent of PEF's capacity, but no energy was generated from CR3 in 2010. However, PEF expects that more than 17 percent of the energy generated in 2020 will come from nuclear. Presently, the two new nuclear generating units at Levy, for which the Commission approved the need in 2008, are projected to be in-service in 2021 and 2022. Because these years are outside of the current planning horizon, these two units do not appear in PEF's TYSP.

Generation Additions

Table 17 shows the new generation included in PEF's 2011 TYSP and responses to subsequent data requests. The in-service date for the uprate of CR3 has been delayed due to the extended outage of that nuclear unit. The additional CC unit does not appear in PEF's 2011 TYSP as filed, but was added in a later data request.

Table 17. PEF: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Additions (uprates)				
Crystal River 3	154	Feb-07	Aug-08	11/2014
Combustion Turbine Unit Additions				
Unsited CT	178	n/a	n/a	6/2018
Combined Cycle Unit Additions				
Unsited CC	767	None Yet	None Yet	11/2020

Source: Responses to FPSC Data Request

TAMPA ELECTRIC COMPANY (TECO)

Tampa Electric Company (TECO) is an investor-owned utility with more than 660,000 customers, and a fleet of generating units including fossil steam, combined cycle, combustion turbine, and an integrated coal gasification combined cycle unit.

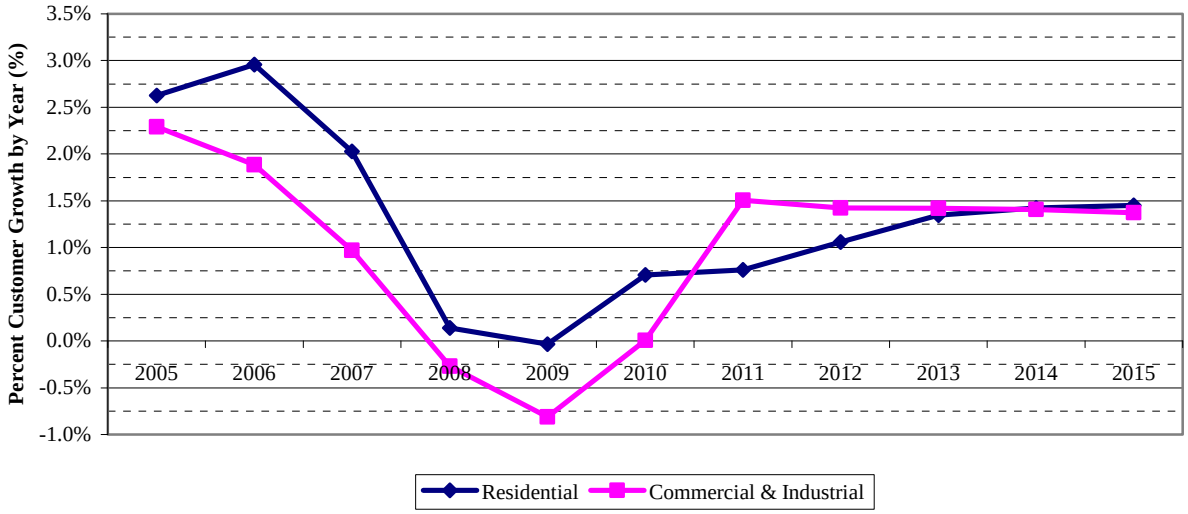
TECO's total NEL for 2010 was 19,213 GWh, which represents approximately 8.4 percent of the NEL generated statewide that year.

Peak Demand and Energy Forecasts

TECO's customer, demand, and energy forecasts are the foundation from which the projection with the highest probability of occurrence is developed.

Figure 23 shows the growth rates in both residential and commercial/industrial classes for actual from 2005 to 2010, and projected growth from 2011 to 2015. Similar to other utilities, TECO experienced a drop in customer accounts beginning in 2005, but also like other utilities, a slow return to positive growth over the next few years for residential customers is expected. The projected growth for commercial and industrial classes is expected to be very slightly negative after 2011.

Figure 23. TECO: Customer Growth Rates



Source: TECO 2011 TYSP

The following three graphs in Figure 24 show the actual (2005 – 2010) and forecasted (2011 – 2020) values for summer and winter peak demand and NEL. The actual winter peak

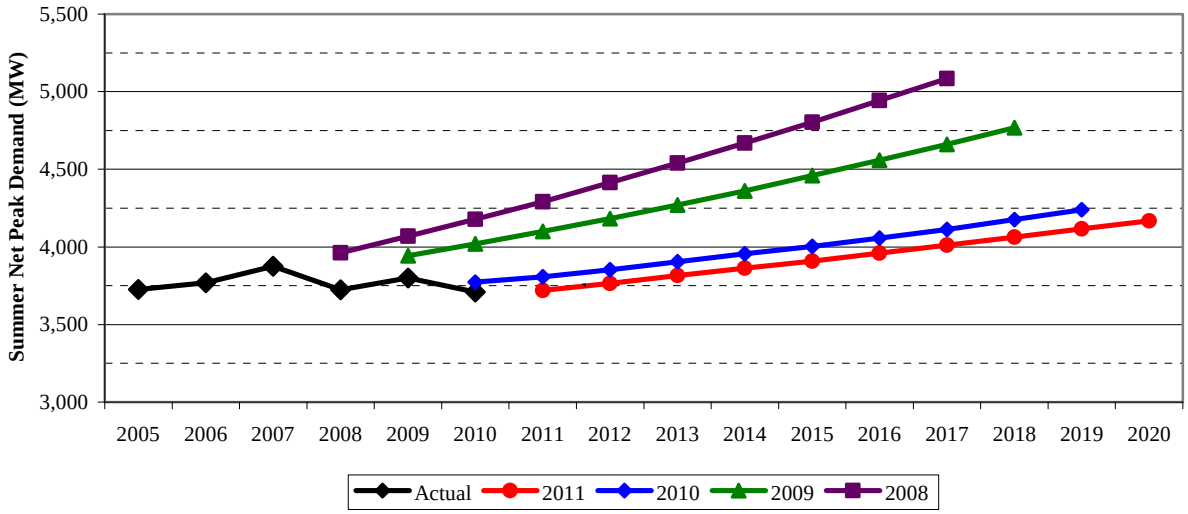
demand value for 2010 appears to be higher than expected due to an unusually severe winter season.

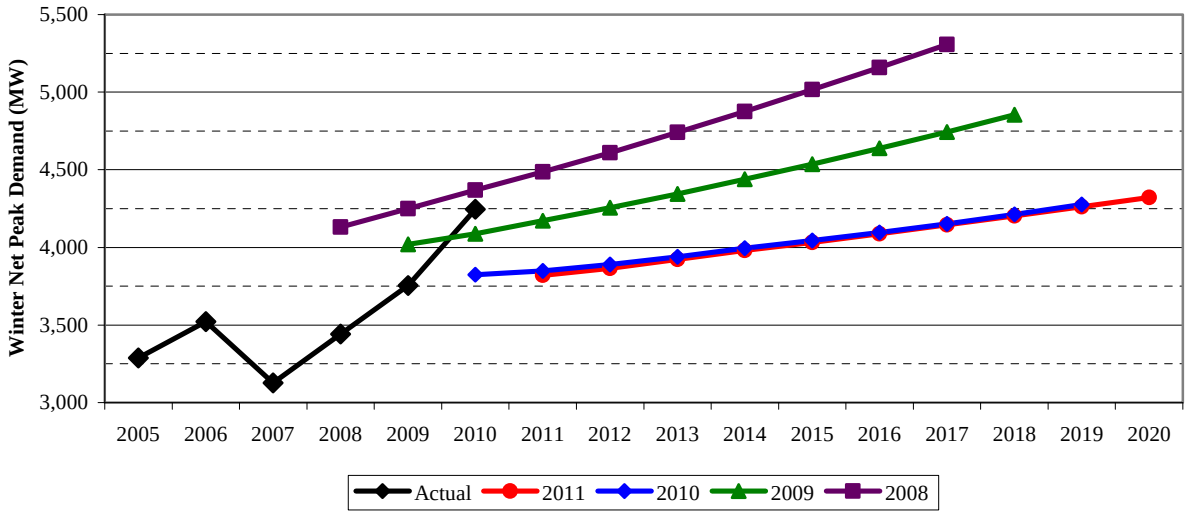
The summer peak demand forecast is almost identical to the forecast from last year's TYSP, only shifted downward slightly. The winter peak demand forecast is virtually identical to the previous year's forecast, however, the actual values for winter peak demand have been rising each year.

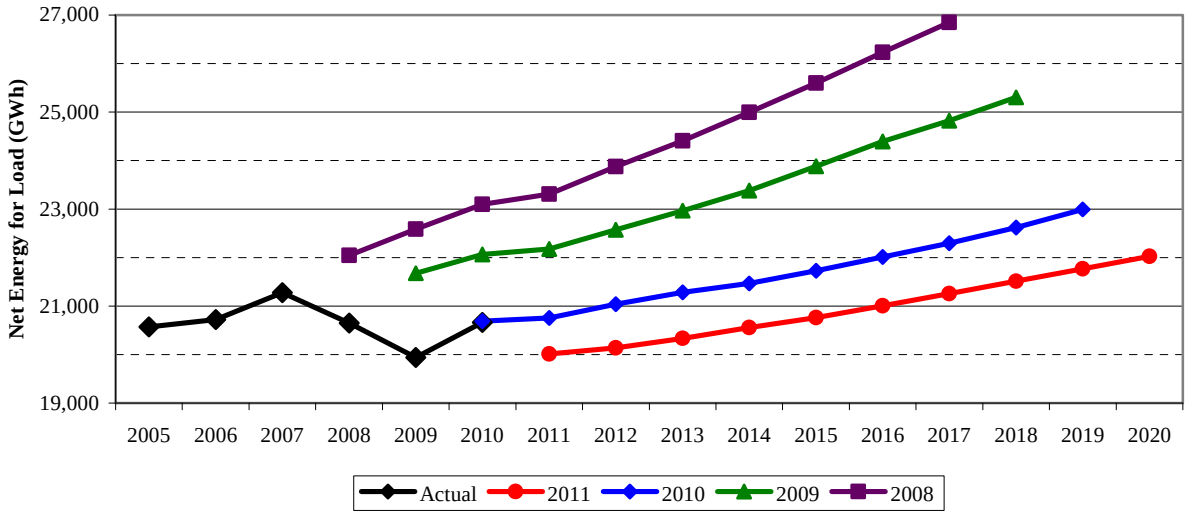
The actual 2010 NEL is almost exactly equal to the 2010 forecasted value, however the 2011 forecast has the values shifted down by approximately 1,000 MW.

Analysis of TECO's historical forecast accuracy to total retail energy sales from 2006 through 2010 results in an average forecast error rate of 3.25 percent. This value shows that TECO tends to over-forecast its retail energy sales by an average of 3.25 percent. Comparison with the overall average error rate of 2.44 percent for all the TYSP utilities shows that TECO's error rate is somewhat higher than the statewide average.

Figure 24. TECO: Demand & Energy Forecast







Demand-Side Management

New DSM goals were set for all the FEECA utilities in 2009. Following the goal-setting proceedings, TECO developed a new DSM Plan to implement programs based on its new goals. TECO's new DSM Plan was approved at the December 20, 2011 Commission Conference, and is included in this year's TYSP filing.

Reliability Criteria

TECO is also one of the three IOUs which maintains a 20 percent reserve margin by stipulation. Figure 25 displays the projected reserve margin for TECO through the planning horizon for both summer and winter peak periods. As the figure shows, TECO is projecting its reserve margin to be more than sufficient for winter, and at or above the minimum level for summer throughout the ten-year period.

Figure 26 displays TECO's reserve margin when the savings resulting from the load management and interruptible components of DSM are removed from the calculations. The importance of non-firm load in a utility's planning reserve is apparent from this figure, which shows that the summer reserve margin falls below 15 percent for most of the years in the planning period.

TECO is the only IOU that currently maintains a minimum generation-only reserve margin. Because DSM programs, and especially load control and interruptible load programs are voluntary, the savings from such programs could be reduced at any time due to customers leaving the programs. In response to a data request, TECO stated that, "if the reserve margin was made up entirely from load management and interruptible customers, Tampa Electric would likely curtail non-firm load more often and in longer durations." In recognition that such a situation could result in large numbers of customers leaving the programs resulting in an unacceptably low level of reserve, TECO maintains a minimum of seven percent generation-only reserve margin. Figure 26 shows that TECO plans to maintain a generation-only reserve margin of above 10 percent for the ten-year planning horizon.

Figure 25. TECO: Reserve Margin Projections

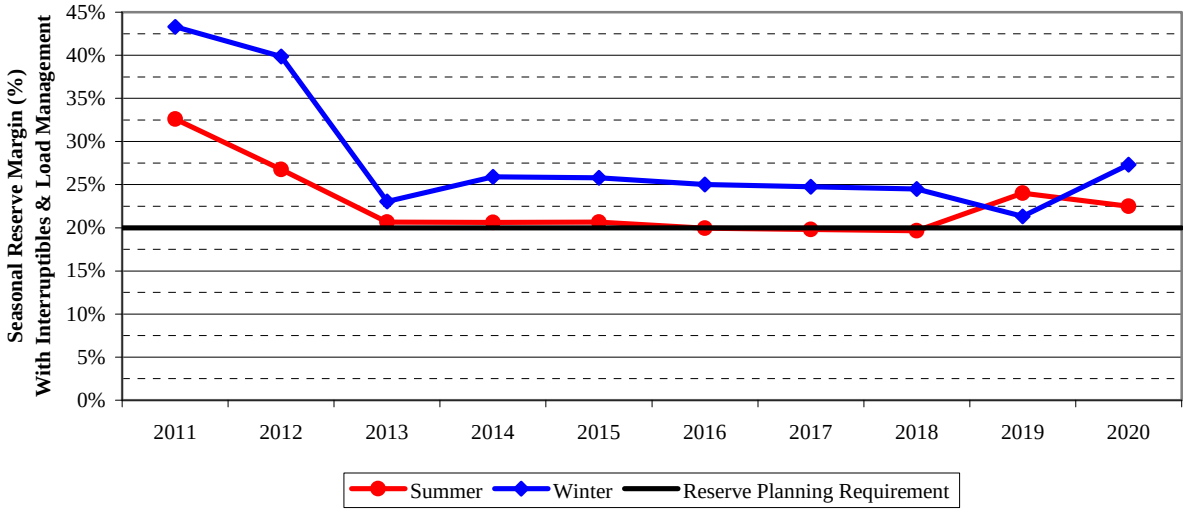
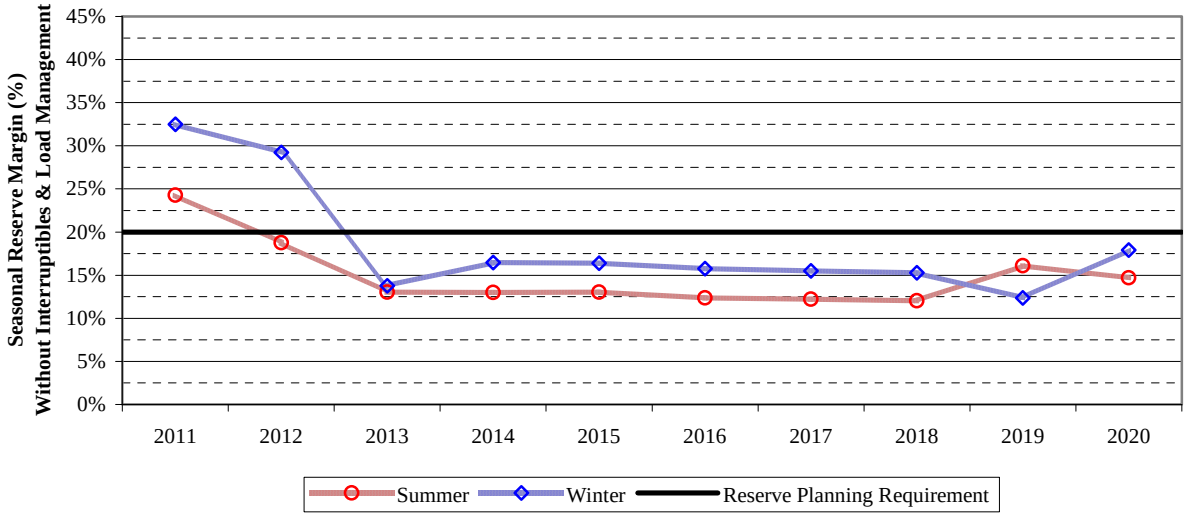


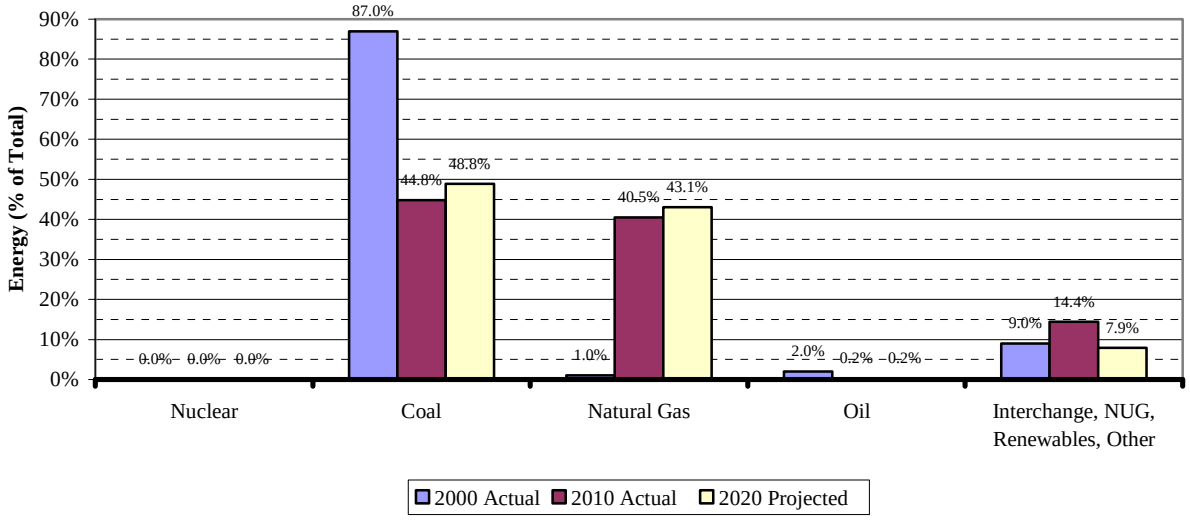
Figure 26. TECO: Generation-Only Reserve Margin Projections



Fuel Diversity

Figure 27 shows that currently more than 85 percent of TECO's energy is generated by coal-fired units and natural gas-fired units. The remaining 14.7 percent comes from purchases and renewable generation, with a very small portion from oil-fired units. Over the planning horizon, the share of energy generated by both coal and natural gas is projected to increase, with the percentages of purchases and renewables decreasing.

Figure 27. TECO: Energy Generation by Fuel Type (Percent of Total)



Source: TECO 2001 and 2011 TYSP

Generation Additions

Table 18 shows in detail the expansion plan included in TECO's 2011 TYSP. Three CT units are planned to become operational in 2013, and then one in each of the following five years. The CT units in 2017 and 2018 are appearing in TECO's TYSP for the first time in 2011. All of the remaining units also appeared in the 2010 Plan.

Table 18. TECO: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Future CT 1	56	n/a	n/a	5 / 2013
Future CT 2	56	n/a	n/a	5 / 2013
Future CT 3	56	n/a	n/a	5 / 2013
Future CT 4	56	n/a	n/a	5 / 2014
Future CT 5	56	n/a	n/a	5 / 2015
Future CT 6	56	n/a	n/a	5 / 2016
Future CT 7	56	n/a	n/a	5 / 2017
Future CT 8	56	n/a	n/a	5 / 2018
Combined Cycle Unit Additions				
Polk 2-5 CC 1	970	None yet	None yet	5 / 2019

Source: TECO 2011 TYSP

GULF POWER COMPANY (GULF)

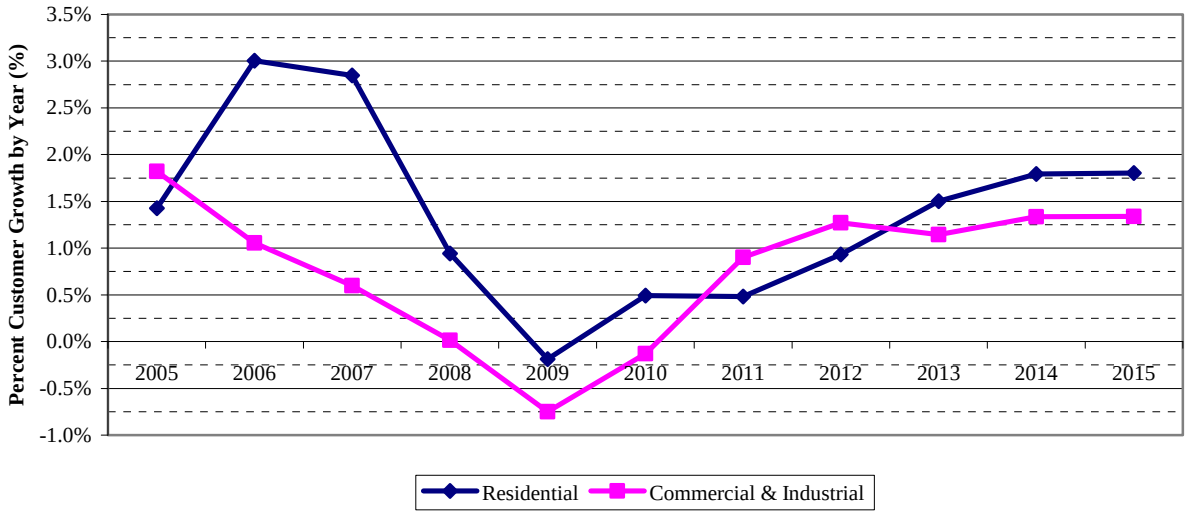
Gulf Power Company (Gulf) is the smallest of Florida's IOUs filing a Ten-Year Site Plan, in terms of generation. Gulf Power, along with Alabama Power, Georgia Power, and Mississippi Power, are members of the Southern Company electric system. Gulf is the only Florida utility that does not have the FRCC as its regional reliability entity. Because Gulf plans and operates its system in conjunction with the other Southern Company utilities, not all of the energy generated by the Gulf units is consumed in Florida.

In 2010, Gulf generated a total of 11,359 GWh. This figure represents 5.1 percent of the total NEL generated in Florida in 2010.

Peak Demand and Energy Forecasts

Figure 28 shows the actual customer growth rates from 2005 through 2010, and the projected customer growth rates for 2011 through 2015. Like the other IOUs, Gulf experienced an overall loss of customer accounts during the 2005 through 2009 period, and began to see positive growth once again in 2010. Gulf also expects this positive growth to continue, although not at the historic rate seen a decade ago.

Figure 28. GULF: Customer Growth Rates



Source: Gulf 2011 TYSP

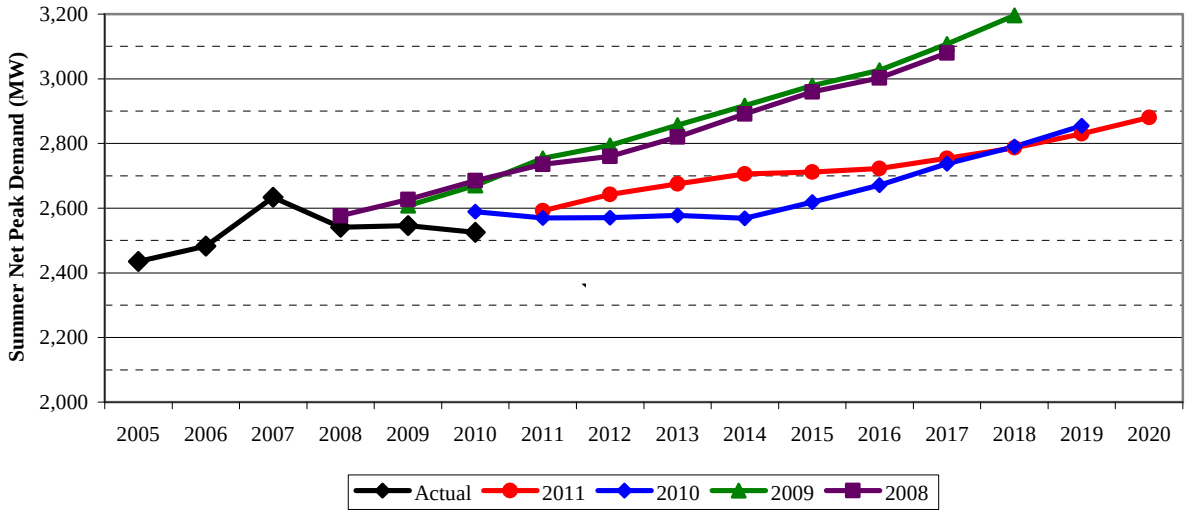
Gulf's projections for summer and winter peak demand and NEL for the planning horizon, along with the actual values for the previous five years, are shown in the three graphs in Figure 29. Like the other IOUs, Gulf's forecasts for summer and winter peak demand are very

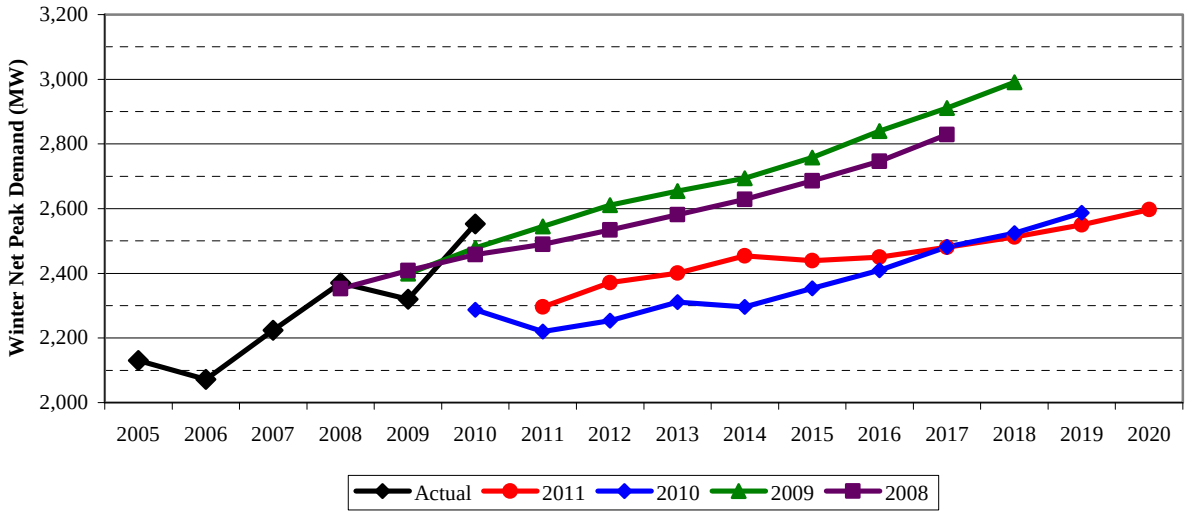
similar to the previous year's forecasts, but have been adjusted upward slightly. The actual winter peak demand value for 2010 is higher than was previously forecasted, due to an unusually severe winter season.

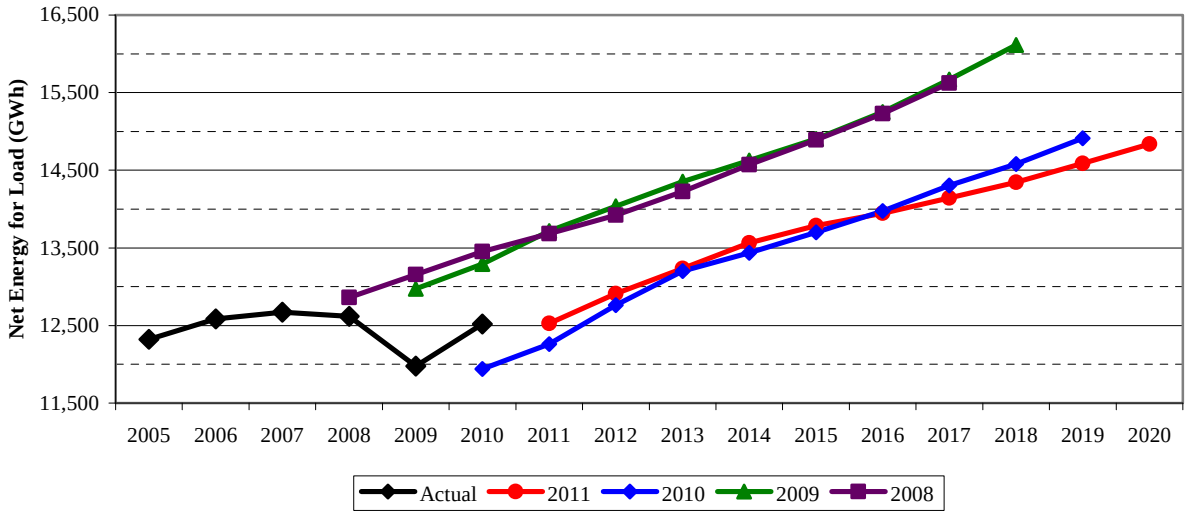
The forecasted NEL for the planning horizon is almost identical to the 2010 forecasted values.

Analysis of Gulf's historical forecast accuracy for total retail energy sales from 2006 through 2010 shows that the average forecast error is -0.32 percent. This value indicates that Gulf tends to under-forecast its retail energy sales by 0.32 percent. When compared to the overall average forecast error of 2.44 percent for all the TYSP utilities, Gulf's error rate is much lower.

Figure 29. GULF: Demand & Energy Forecast







Demand-Side Management

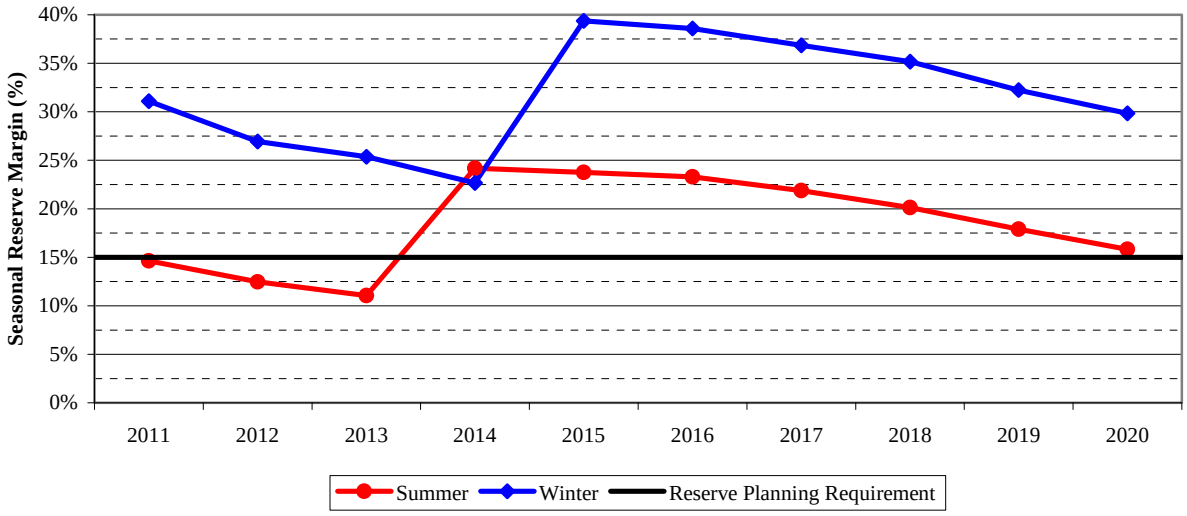
Gulf's DSM Plan, which meets the higher goals approved by the Commission in 2009, was approved by the Commission at the January 25, 2011 Commission Conference. The 2009 DSM goals are included in the values for reserve margin in the 2011 TYSP.

Reliability Criteria

Gulf maintains a 15 percent reserve margin. Figure 30 displays Gulf's projected reserve margin for both summer and winter peak periods throughout the planning horizon. Although the reserve margin appears to be extremely low in 2013, a large firm purchased power contract will be implemented that year, which causes the reserve margin to spike upwards. Also, these figures do not include assistance from other Southern Company operating companies.

Gulf does not administer any active load management or interruptible load programs, and therefore has no non-firm load component in its reserve margin.

Figure 30. GULF: Reserve Margin Projections

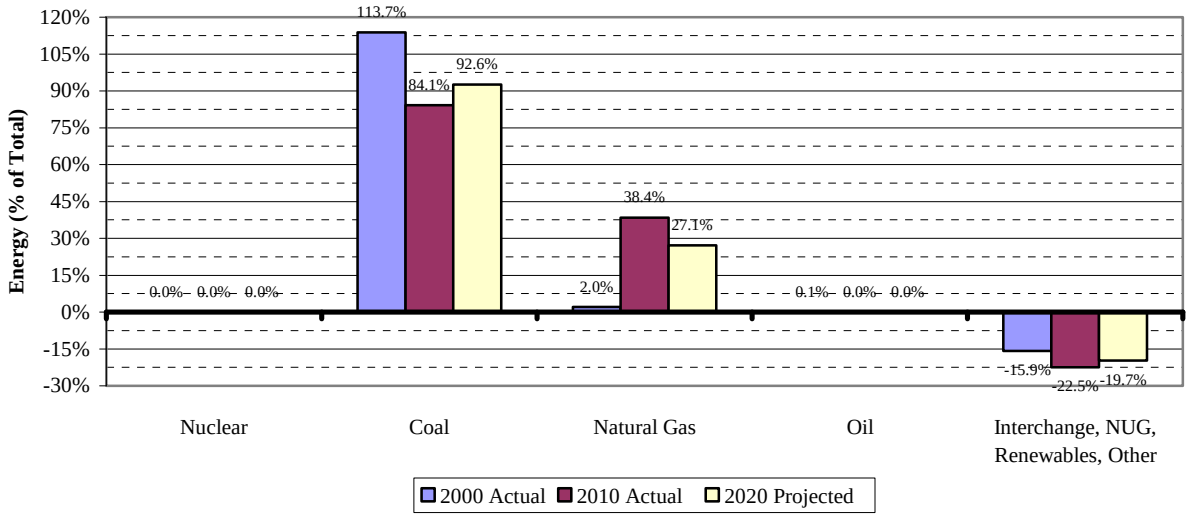


Source: Gulf 2011 TYSP

Fuel Diversity

Figure 31 shows negative values for the interchange/other category of generation. This simply indicates that Gulf actually sold more energy than it purchased, and it expects this situation to continue over the planning horizon. Because this energy was generated and subsequently sold, the percentages of energy generated by fuel type sum to more than 100 percent.

Figure 31. GULF: Energy Generation by Fuel Type (Percent of Total)



Source: Gulf 2001 and 2011 TYSP

Generation Additions

No additional generation is planned by Gulf in the current planning horizon.

INDIVIDUAL UTILITIES

MUNICIPAL UTILITIES & RURAL ELECTRIC COOPERATIVES

- **Florida Municipal Power Agency**
- **Gainesville Regional Utilities**
- **JEA**
- **City of Lakeland**
- **Orlando Utilities Commission**
- **Seminole Electric Cooperative**
- **City of Tallahassee**

FLORIDA MUNICIPAL POWER AGENCY (FMPA)

FMPA is a governmental wholesale power company owned by 30 municipal electric utilities located throughout the State of Florida. FMPA facilitates opportunities for its members to participate in power supply projects developed by Florida utilities and other producers, and provides economies of scale in power generation and related services.

FMPA's direct responsibility for power supply is with the All-Requirements Power Supply Project (ARP), where FMPA plans and supplies all of the power requirements for 14 of its participating utilities. The values for capacity in the following figures corresponds to the ARP.

FMPA had a total summer generating capacity of 981 MW and generated 6,299 GWh in 2010, which represents 2.5 percent of the total NEL for the state. The summer net firm peak demand was 1,272 MW in 2010.

Peak Demand and Energy Forecasts

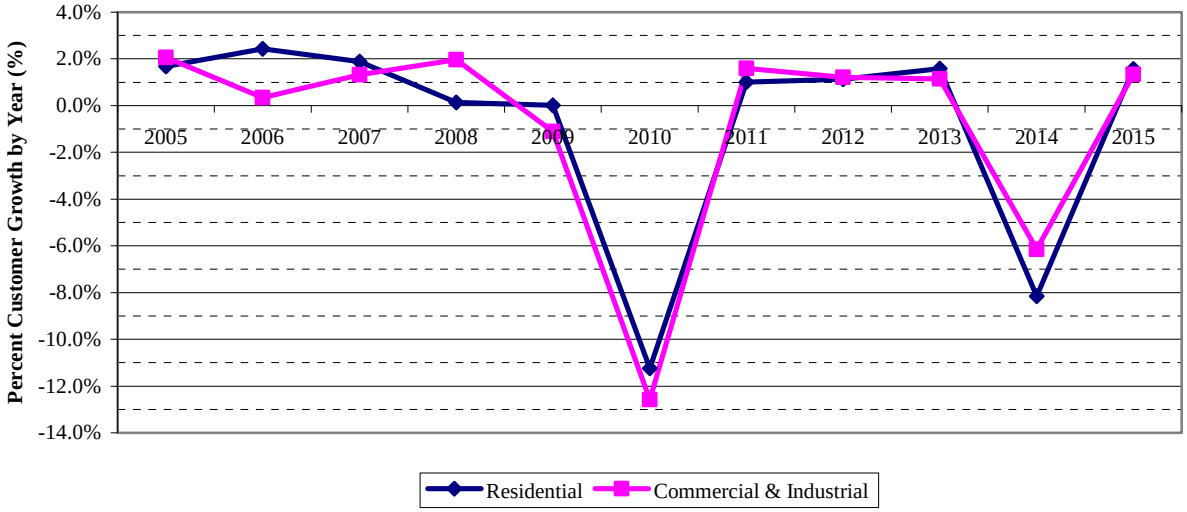
FMPA's projected NEL for 2020 is 7,341 GWh. The projected summer net firm peak demand for FMPA is projected to be 1,418 MW in 2020.

FMPA's load and energy forecasts include projections of customers, demand, and energy sales for each of the ARP participants. Forecasts are prepared for individual ARP participants, and then aggregated into projections of the total ARP demand and energy requirements.

Figure 32 displays the historical and forecasted growth rates for FMPA customers from 2005 through 2015. Regarding its forecasts, FMPA reports that historical and projected economic and demographic data were developed from data provided by commercial providers, as well as from information regarding local economic and demographic issues specific to each ARP participant.

Figure 32 shows the historic and projected rates of customer growth for FMPA for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected. The drop in the rate of growth for 2010 is due to the City of Lake Worth leaving the ARP, and the smaller drop in 2014 is the expected result of the departure of the City of Vero Beach from the ARP. The chart does not include the rate of change for the year 2015, but it would also show a drop for that year due to the City of Fort Meade leaving the ARP. These utilities will remain as members of the FMPA, but are exercising an option to modify their memberships from a full requirements basis to a partial requirements basis. These changes in membership status means that the ARP will no longer utilize these participants' generating resources, if any exist.

Figure 32. FMPA: Customer Growth Rates

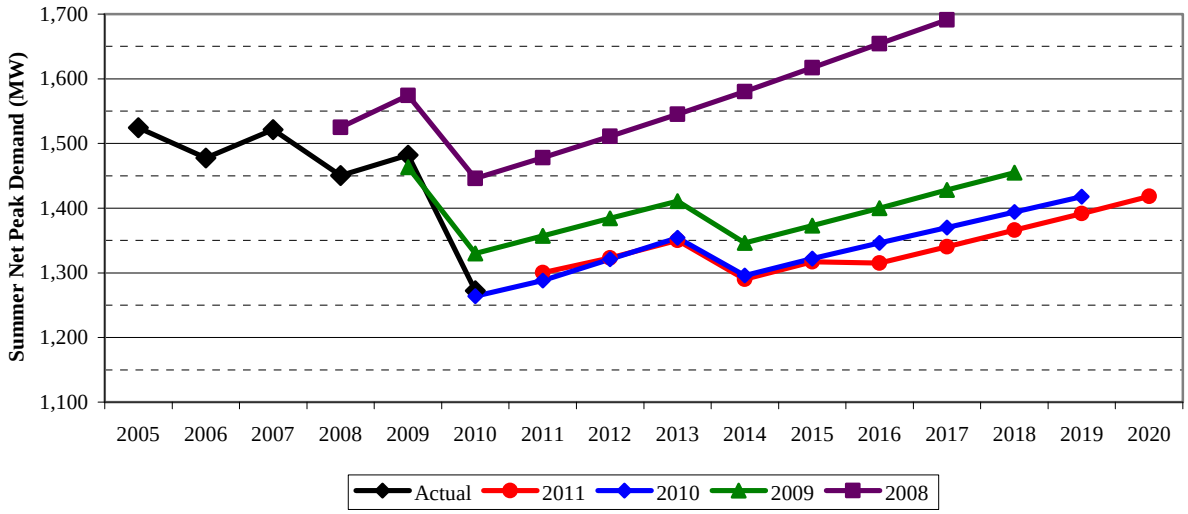


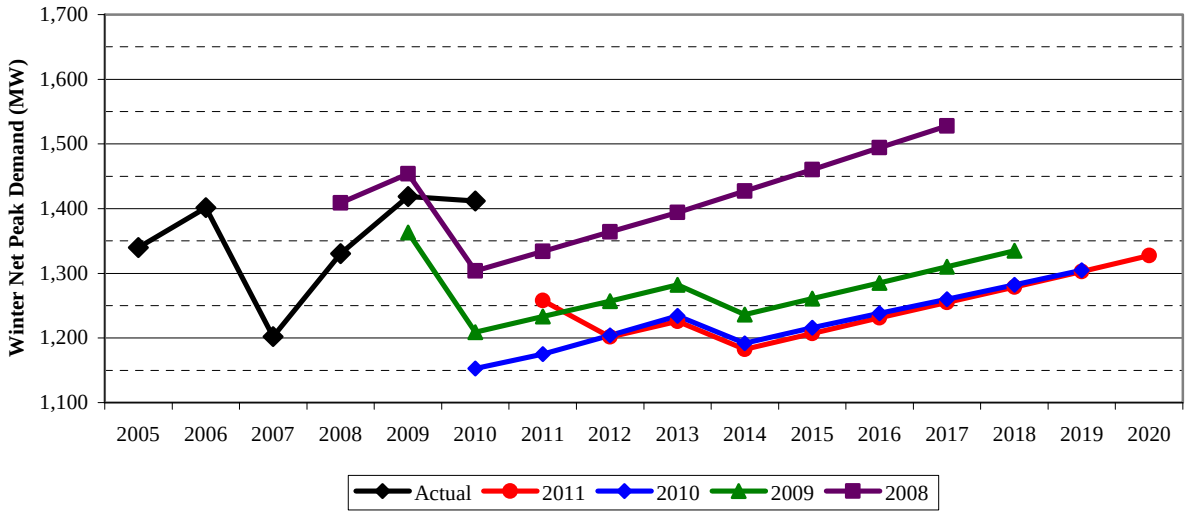
The three graphs in Figure 33 show FMPA's actual values for summer and winter peak demand, as well as the actual NEL for the previous six years. For comparison purposes, these graphs also show the forecasted values of summer and winter peak demand and NEL from the 2008, 2009, 2010, and 2011 TYSPs.

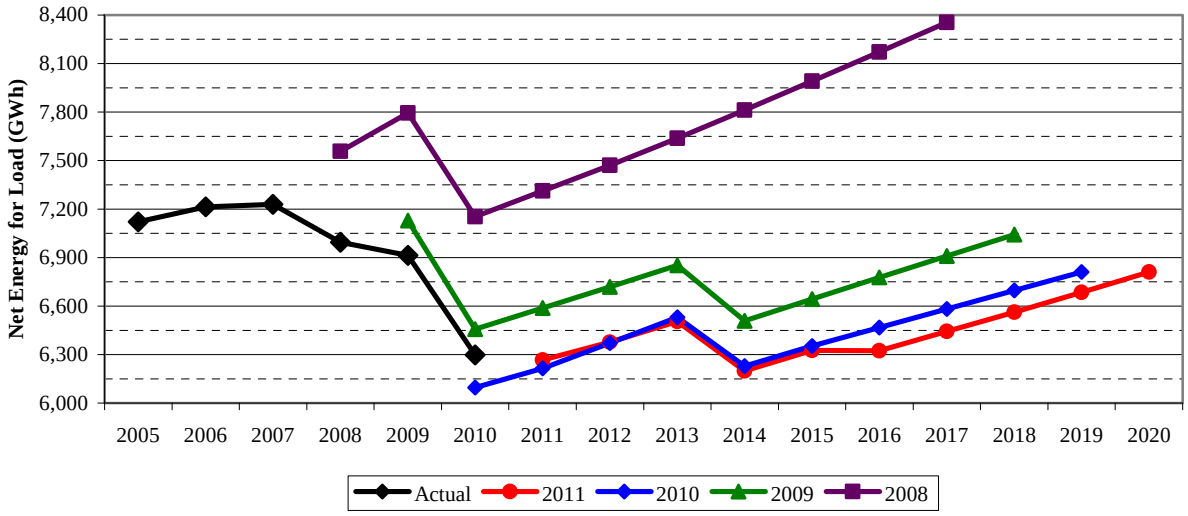
These graphs show that, along with other Florida electric utilities, the forecasts were lowered each year from 2008 to 2010, until the current cycle, which does not differ significantly from the 2010 forecast. Only the summer peak demand and the NEL forecasts have been decreased slightly in the outer years of the planning cycle.

Analysis of the historical forecast accuracy for FMPA's historical forecast accuracy for total retail energy sales for the previous five-year period shows that the average forecast error is 2.32 percent. This figure is very close to the overall average forecast error of 2.44 percent for all the TYSP utilities.

Figure 33. FMPA: Demand & Energy Forecast







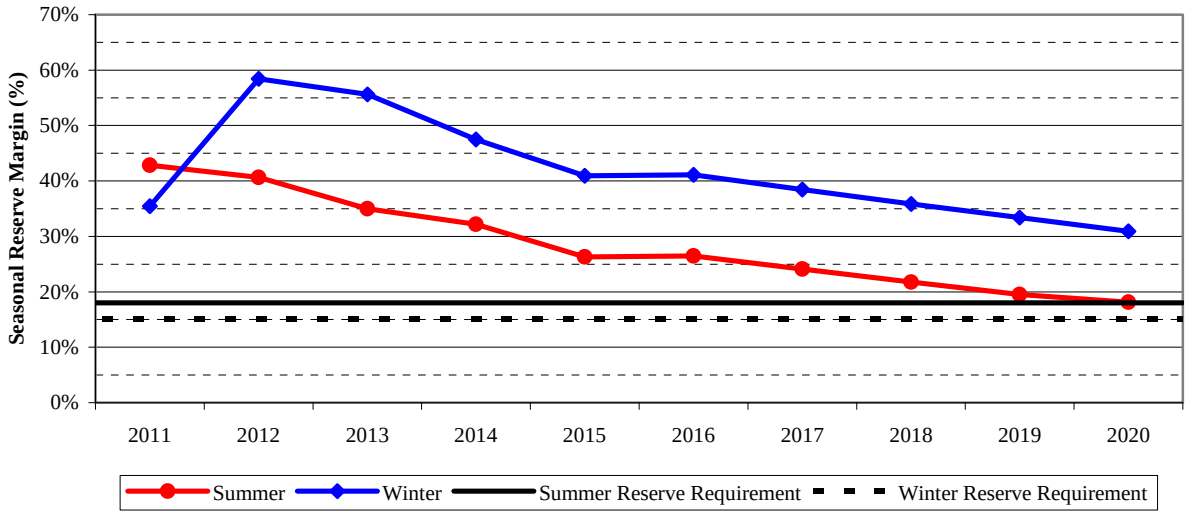
Demand-Side Management

FMPA is not one of the FEECA utilities, and therefore is not required to meet DSM goals set by the Commission. It does, however, utilize renewable resources such as solar PV and biomass. In addition, a Conservation & Energy Efficiency Program and a Net Metering Program are offered to FMPA's customers. Because they are still in a pilot phase, the effects of the energy efficiency programs are not included in the demand and energy forecasts. FMPA does not administer load management or interruptible load programs, and therefore has no energy efficiency component added to its reserve margin.

Reliability Criteria

FMPA maintains a 15 percent reserve margin, pursuant to FRCC requirements. Figure 34 displays FMPA's forecasted reserve margin over the planning horizon for the summer and winter seasons. As can be seen in the figure, FMPA has ample reserves and its margin only begins to approach the 15 percent minimum in the last few years of the horizon. FMPA does not administer load management or interruptible load programs, and therefore has no non-firm load component in its reserve margin.

Figure 34. FMPA: Reserve Margin Projections

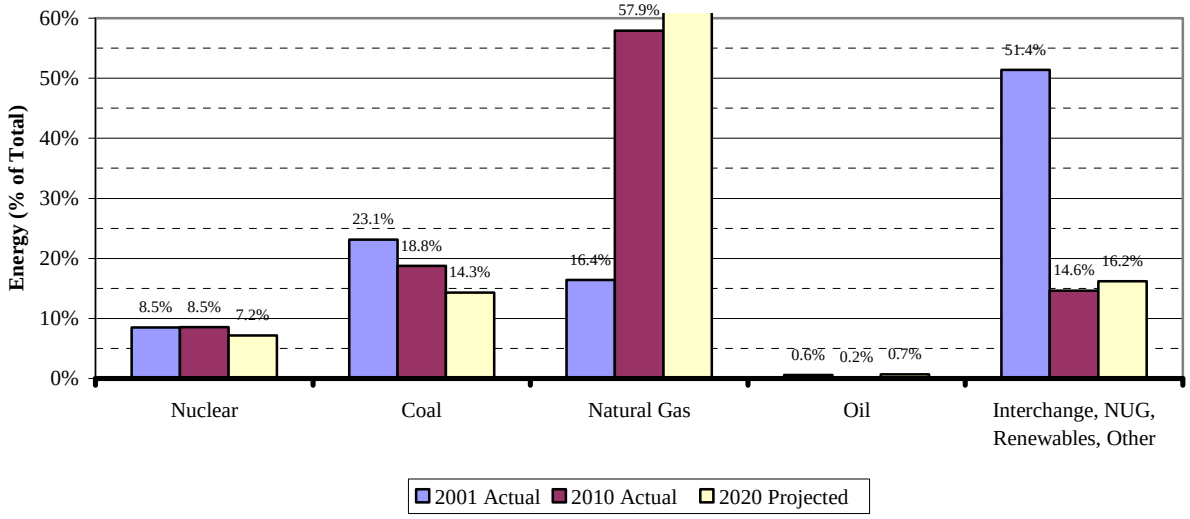


Source: FMPA 2011 TYSP

Fuel Diversity

Figure 35 displays the composition of FMPA's system in terms of energy generated. The figure shows that FMPA is not planning to change its system significantly over the ten-year planning horizon. Small reductions in nuclear and coal-fired generation will be compensated for by increases in natural gas-fired generation and slightly more purchased power.

Figure 35. FMPA: Energy Generation by Fuel Type (Percent of Total)



Source: FMPA 2001 and 2011 TYSP

Generation Additions

FMPA has only one additional generating unit in its 2011 TYSP. Cane Island Unit 4, a 300 (summer) MW natural gas-fired combined cycle generator, went in-service in May 2011.

GAINESVILLE REGIONAL UTILITIES (GRU)

GRU is a municipal electric, natural gas, water, wastewater, and telecommunications utility system owned and operated by the City of Gainesville. The GRU retail electric system service area includes the City of Gainesville and its surrounding urban area.

In 2010, GRU's total NEL was 2,141 GWh, which represents 0.9 percent of the state's cumulative NEL. GRU's summer net firm peak demand in 2010 was 470 MW.

Peak Demand and Energy Forecasts

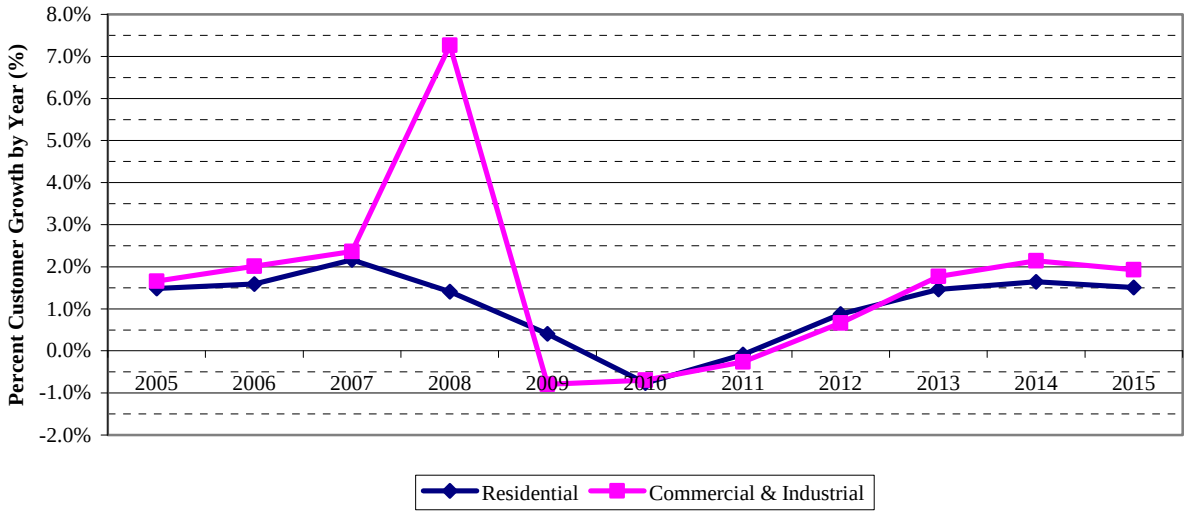
GRU projects that its summer net firm peak demand will increase to 481 MW in 2020. The NEL forecasted for 2020 is 2,206 GWh.

GRU's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. Figure 36 shows the historic and projected rates of customer growth for GRU for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

GRU separates its customers into several classes: residential, general service non-demand, general service demand, large power, outdoor lighting, sales to Clay (SEC), and sales to Alachua (City of Alachua). The "Commercial & Industrial" category in Figure 36 represents all of the classes listed above except the residential class.

The rate of growth in commercial and industrial customers in Figure 36 appears to spike dramatically in 2008. In fact, there was an increase of about 700 non-residential customers that year.

Figure 36. GRU: Customer Growth Rates



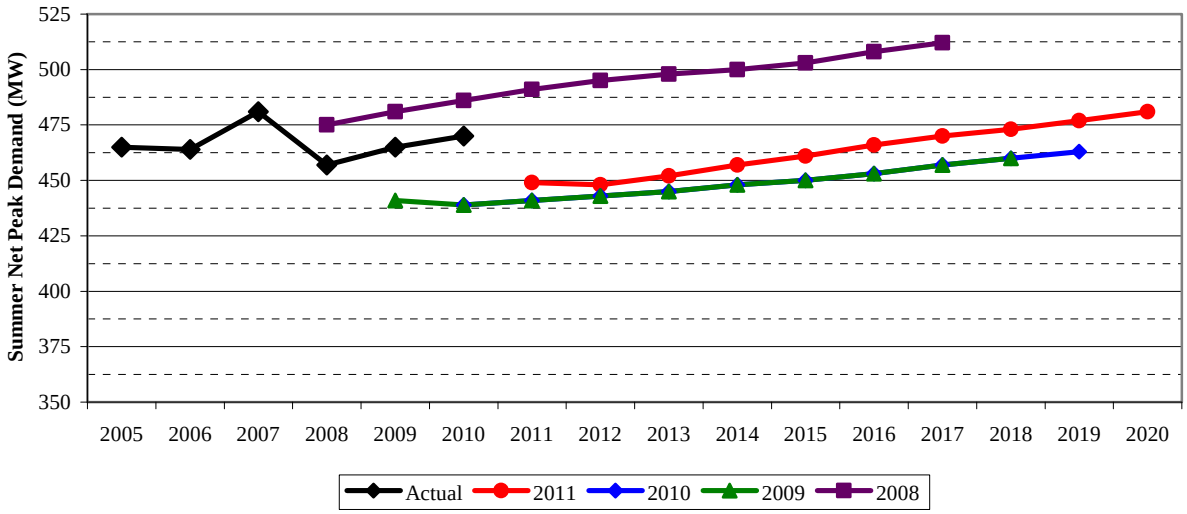
The three graphs in Figure 37 show the actual values for GRU's summer and winter peak demand, and its NEL from 2005 through 2010. While the summer peak demand and NEL remained fairly consistent, the winter peak demand spiked upwards in both 2009 and 2010. This spike is presumably due to the unusually severe cold spells experienced in the region for both of those winter seasons.

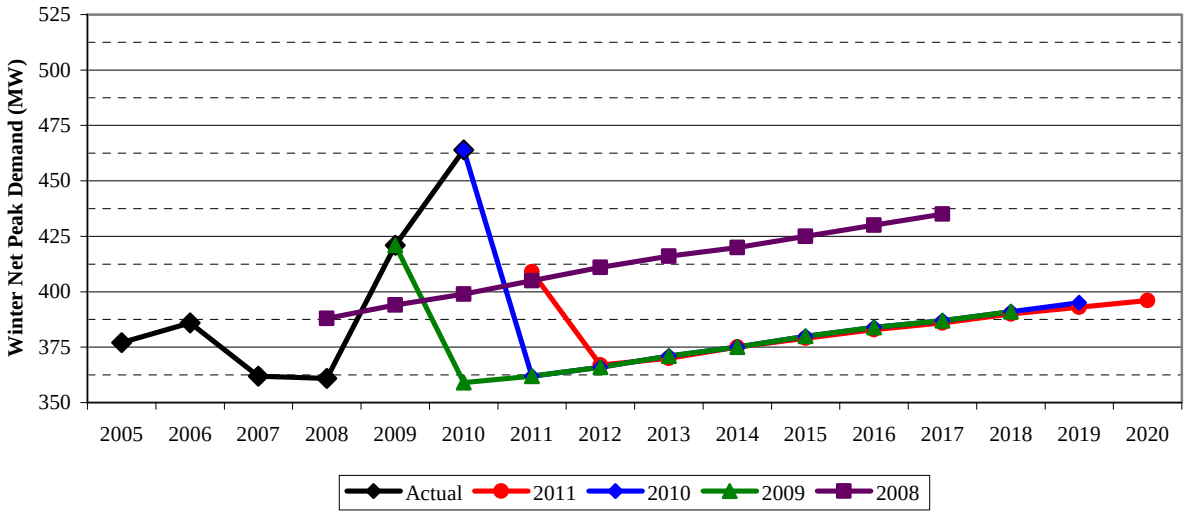
Figure 37 also illustrates the forecasted seasonal peak demands and NEL for 2008, 2009, and 2010, as well as the current 2011 forecasts. The summer peak demand forecast was adjusted slightly upwards in 2011. The winter peak demand forecast has been virtually identical for the past three cycles, except that it appears GRU is expecting another unusually cold winter this year.

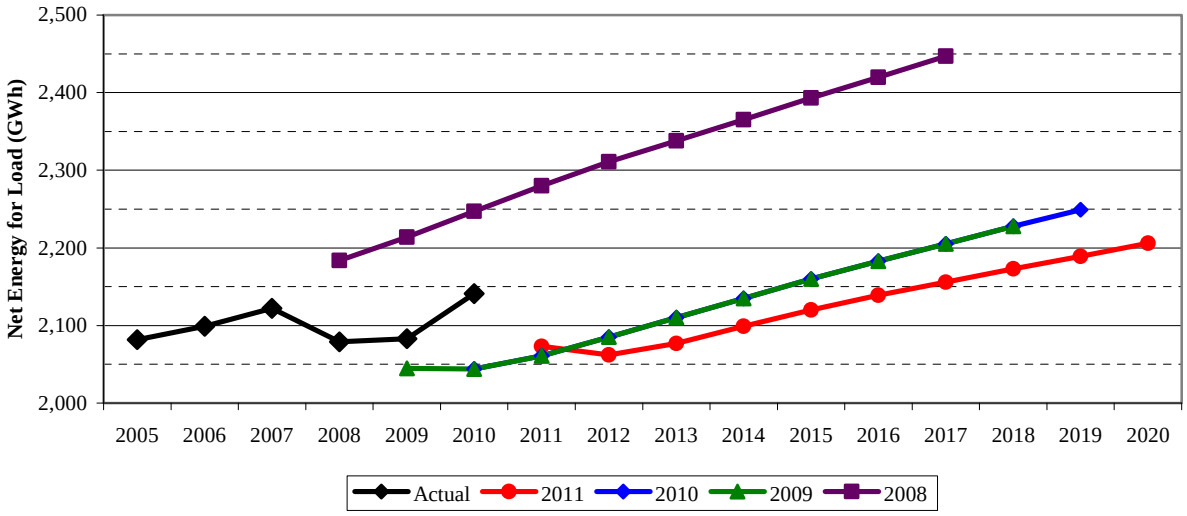
The NEL forecasts for 2009 and 2010 were identical, and the 2011 forecast for NEL has been adjusted downward slightly.

Analysis of the historical forecast accuracy for GRU's total retail energy sales from 2006 through 2010 results in an average forecast error of 1.98 percent. This figure denotes GRU's tendency to slightly over-forecast its retail energy sales, but it compares well to the overall average forecast error of 2.44 percent for all the TYSP utilities.

Figure 37. GRU: Demand & Energy Forecast







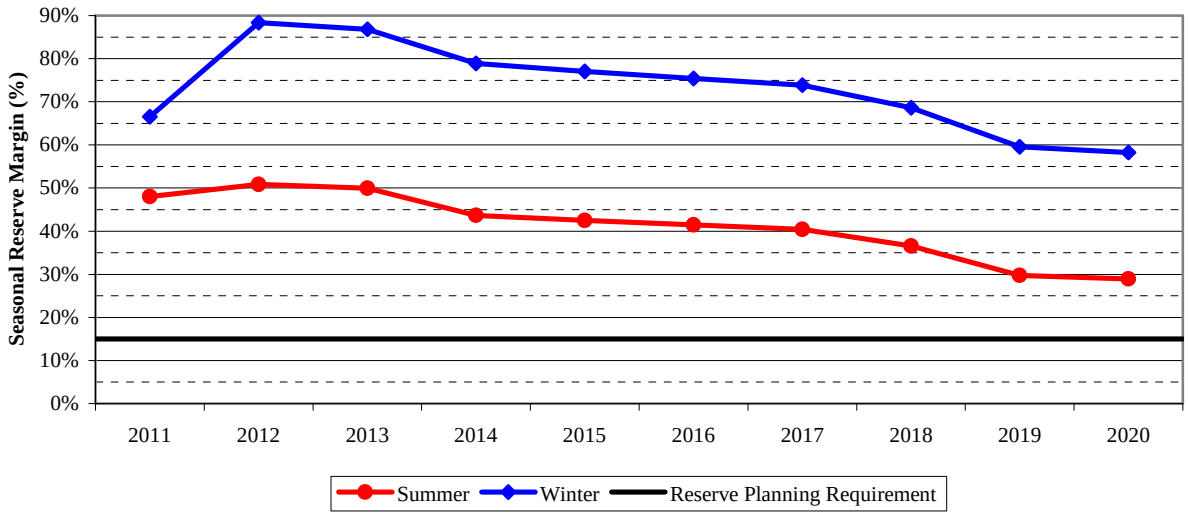
Demand-Side Management

Because GRU does not meet the minimum criterion of annual energy sales of at least 2,000 GWh, GRU is not subject to the FEECA requirement to meet DSM goals set by the Commission. GRU does have a DSM program, however, as well as solar generation, biomass facilities, and distributed generation systems. GRU expects that its DSM programs planned for 2011-2020 will provide 27 MW of summer peak reduction, and a total of 138 GWh of annual energy savings by 2020.

Reliability Criteria

Pursuant to FRCC requirements, GRU maintains a 15 percent reserve margin. As Figure 38 clearly shows, GRU's reserve margin is forecasted to remain well above the minimum level throughout the planning horizon for the summer and winter peak seasons. GRU does not have any active load management or interruptible load programs and therefore has no non-firm load component to its reserve margin.

Figure 38. GRU: Reserve Margin Projections

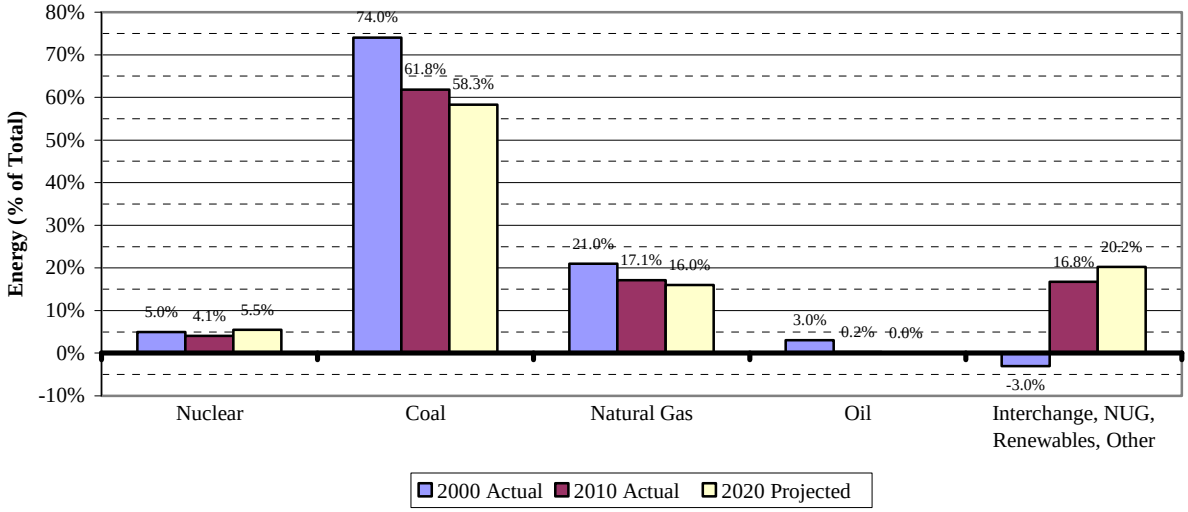


Source: GRU 2001 and 2011 TYSP

Fuel Diversity

Figure 39 shows GRU's system composition in terms of energy generated. The figure shows that GRU expects to increase its generation from renewable sources significantly, while reducing the amount of purchased power. The amount of energy generated from nuclear is forecasted to remain stable, but the energy generated from both coal and natural gas is expected to decrease notably.

Figure 39. GRU: Energy Generation by Fuel Type (Percent of Total)



Source: GRU 2011 TYSP

Generation Additions

GRU has no plans for additional generating units for the current planning horizon.

JEA

JEA is a municipally owned electric utility with a service area including all of Duval County as well as portions of Clay and St. Johns Counties. Serving approximately 420,000 customers makes JEA the eighth largest municipal electric utility in the United States in terms of number of customers.

JEA had a total summer net firm generating capacity of 2,817 MW and generated 13,842 GWh in 2010, which makes up 5.6 percent of the total NEL for the State of Florida.

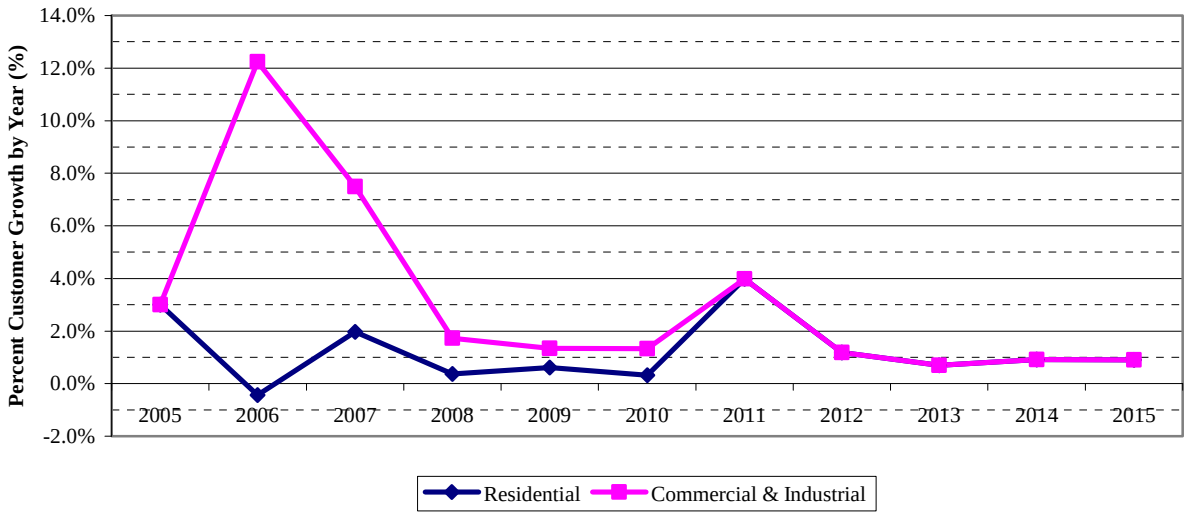
Peak Demand and Energy Forecasts

JEA forecasts that in 2020, its summer net firm peak demand will increase to 3,290 and it will generate 16,009 GWh.

JEA's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. Figure 40 shows the historic and projected rates of customer growth for JEA for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

An increase of approximately 4,500 customers occurred in JEA's commercial/industrial class in 2006. A smaller increase in both residential and commercial/industrial classes is expected to occur in 2011.

Figure 40. JEA: Customer Growth Rates

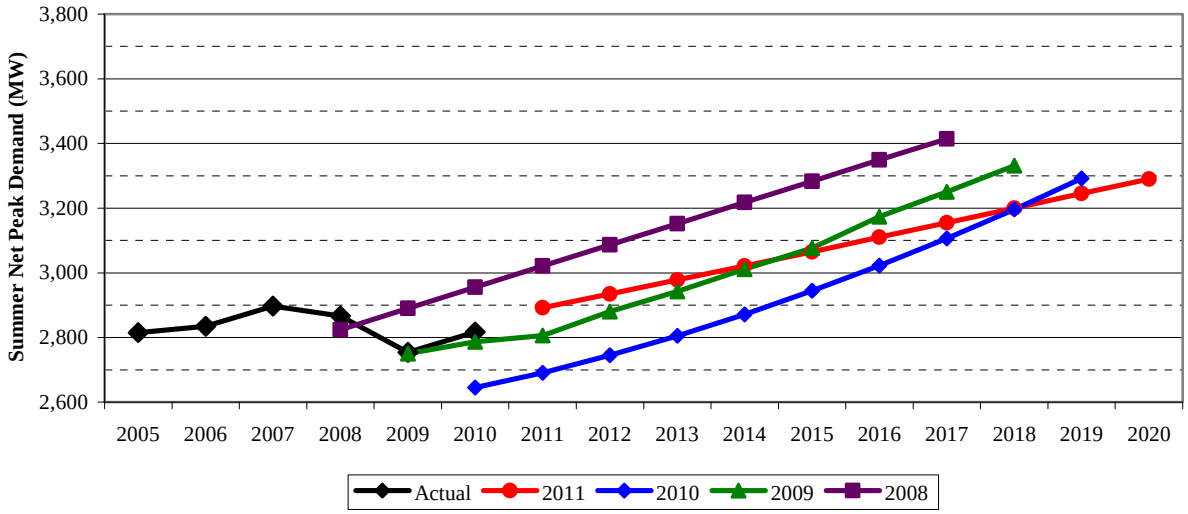


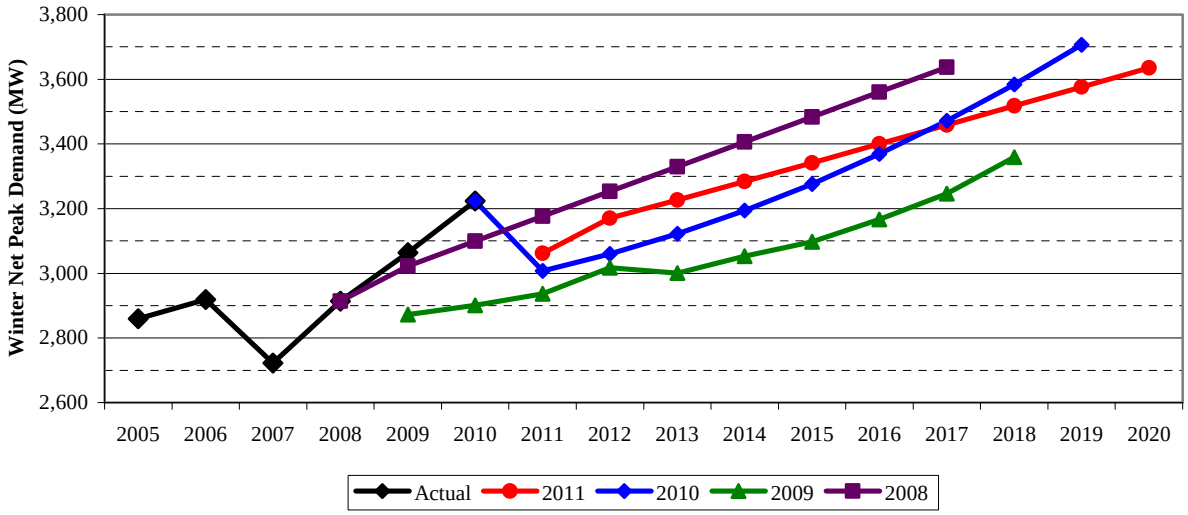
The following three graphs in Figure 41 show the actual summer and winter peak demand and NEL for the years 2005 through 2010. Both the summer peak demand and NEL are fairly consistent, while the winter peak demand spiked upwards for the past two winter seasons, which were colder than usual.

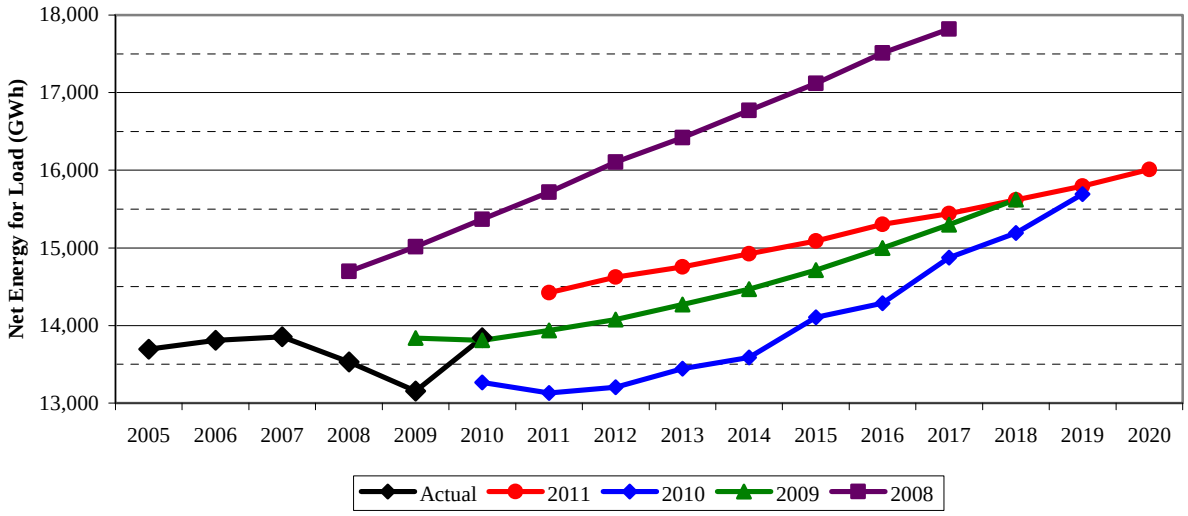
The forecasts for seasonal peak demand and NEL which appeared in the 2008, 2009, and 2010 TYSPs are also shown, as well as the current 2011 forecasts. After being adjusted downwards for three consecutive years, in 2011 the forecasts for summer peak demand and NEL were both adjusted upwards, to a level similar to the 2009 forecasts. The winter peak demand forecast was increased somewhat more than that of summer peak demand.

Analysis of the historical forecast accuracy for JEA's total retail energy sales from 2006 through 2010 yields an average forecast error of 3.63 percent. This figure is slightly higher than the average forecast error of 2.44 percent for all the TYSP utilities. The positive number denotes a tendency to over-forecast.

Figure 41. JEA: Demand & Energy Forecast







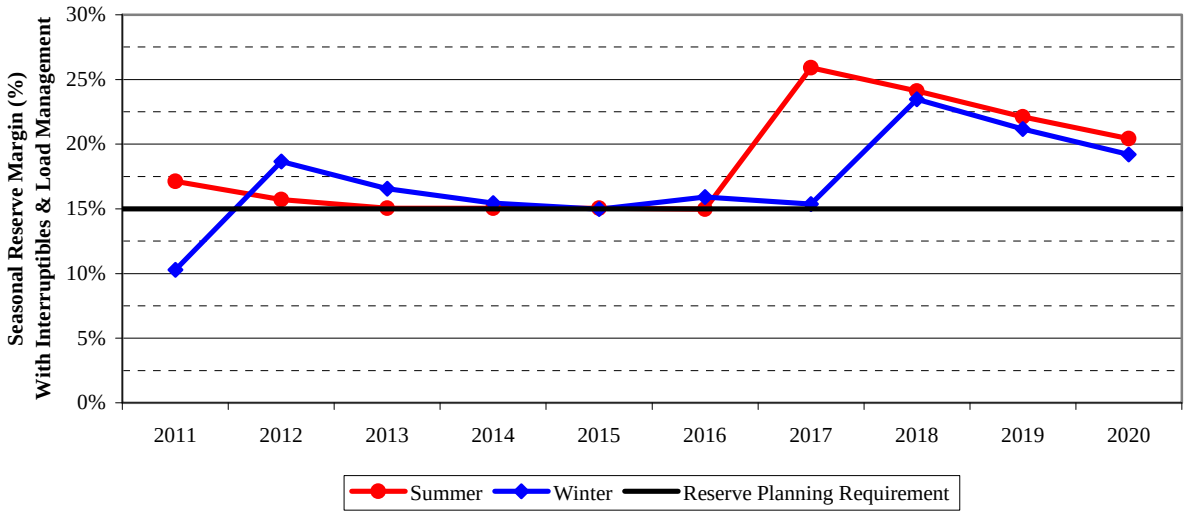
Demand-Side Management

JEA is one of only two Florida municipal electric utilities to meet the FEECA criterion of 2,000 GWh in annual energy sales (the other is OUC). The Commission set new DSM goals for JEA in 2009, and JEA subsequently submitted a new DSM Plan designed to meet the higher demand and energy goals. JEA's DSM Plan was approved by the Commission at the September 14, 2010 Commission Conference, and the demand and energy savings resulting from the new DSM Plan are included in the 2011 TYSP filing.

Reliability Criteria

JEA maintains a minimum reserve margin of 15 percent as part of the FRCC region. Figure 42 shows that JEA's reserve margin hovers at the 15 percent level until 2016, when it increases to above 20 percent for both the summer and winter seasons. Increased purchased capacity and decreased exported capacity cause the reserve to increase in 2016.

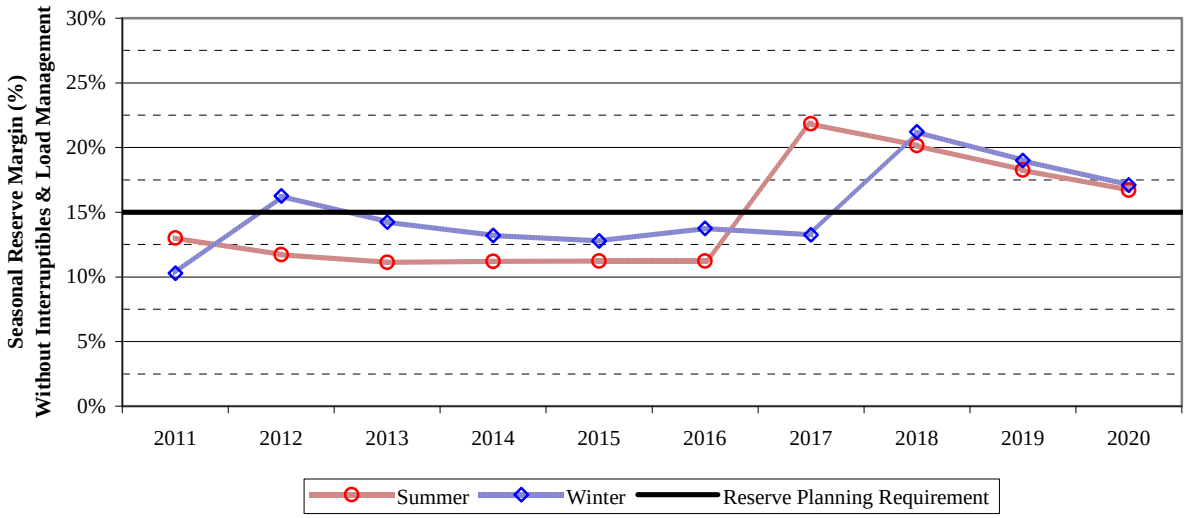
Figure 42. JEA: Reserve Margin Projections



Source: JEA 2011 TYSP

Because JEA does have active load management and interruptible load programs in place, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in Figure 43. Clearly, JEA's reserve margin from supply-side resources will not be less than 10 percent.

Figure 43. JEA: Generation-Only Reserve Margin Projections

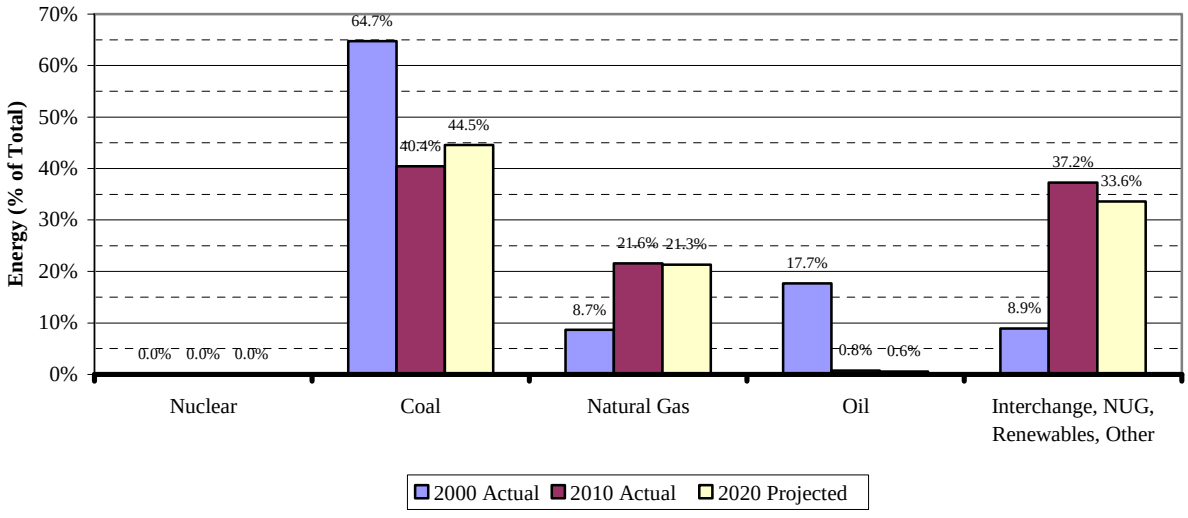


Source: JEA 2011 TYSP

Fuel Diversity

Figure 44 illustrates JEA's historic, current, and projected system composition in terms of energy generation. The amount of energy generated by coal units is not expected to change appreciably in the next ten years, and by the end of the current planning horizon the portions of energy purchased and generated by natural gas will approximate their respective 2010 values.

Figure 44. JEA: Energy Generation by Fuel Type (Percent of Total)



Source: JEA 2001 and 2011 TYSP

Generation Additions

There are no new generating units in JEA's 2011 Ten-Year Site Plan.

CITY OF LAKELAND (LAK)

Lakeland Electric (LAK) is the municipal electric utility owned and operated by the City of Lakeland. Lakeland Electric is a member of the Florida Municipal Power Pool (FMPP), along with OUC and the FMPA's All-Requirements Project (ARP). The FMPP operates as an hourly energy pool with all FMPP capacity from its members committed and dispatched together. Each member of the FMPP retains the responsibility of adequately planning it own system to meet native load and FRCC reserve requirements.

Lakeland is normally a winter peaking utility, and expects to continue having its system peak demand occur during winter months based on expected normal weather. The 2010 NEL was 3,063 GWh, which represents 1.3 percent of the state's total NEL for 2010. Lakeland's winter net firm peak demand in 2010 was 709 MW

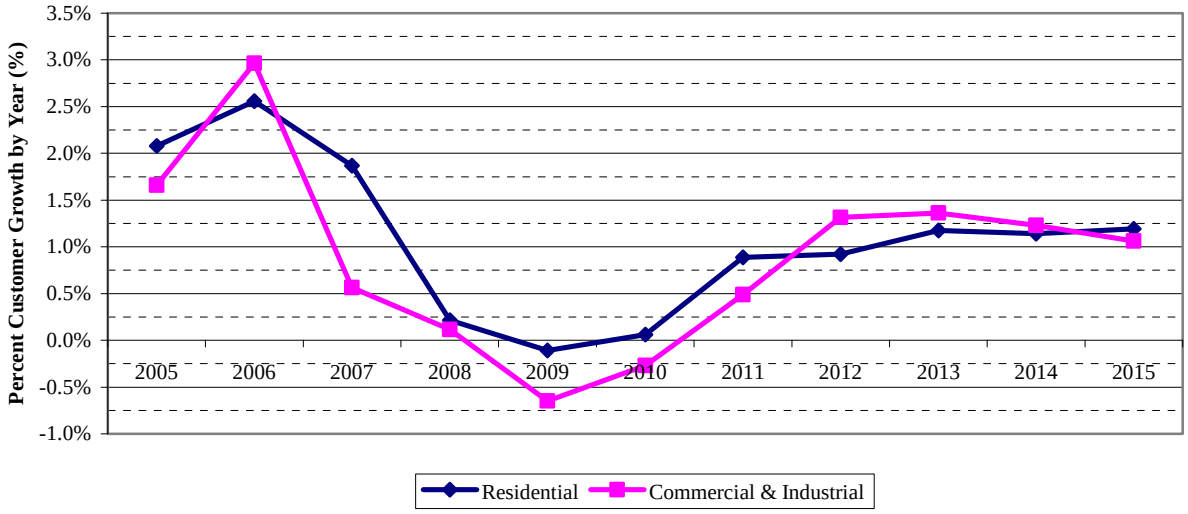
Peak Demand and Energy Forecasts

LAK's forecasted NEL for 2020 is 3,319 GWh, and the winter net firm peak demand is expected to reach 793 MW in 2020.

Lakeland's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. Figure 45 shows the historic and projected rates of customer growth for LAK for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

Figure 45 shows the variation in the rates of customer growth over the past five years. This variation is most likely a result of the economic conditions affecting much of the country during this time frame. However, the projected growth rates are more stable. Lakeland expects positive customer growth in both the residential and commercial/industrial classes for the next two years, and a fairly constant level of growth for the following three years.

Figure 45. LAK: Customer Growth Rates

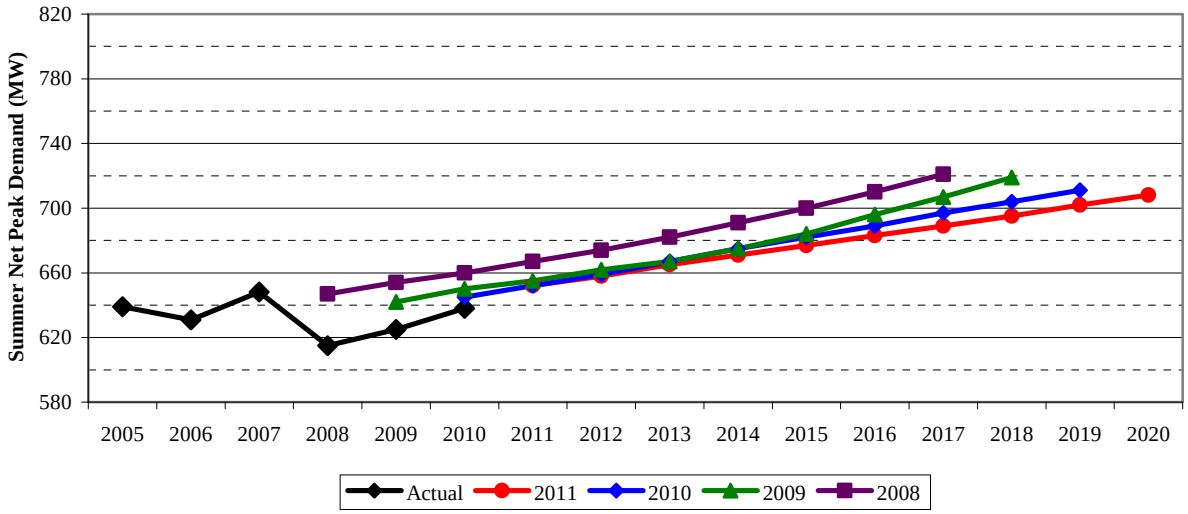


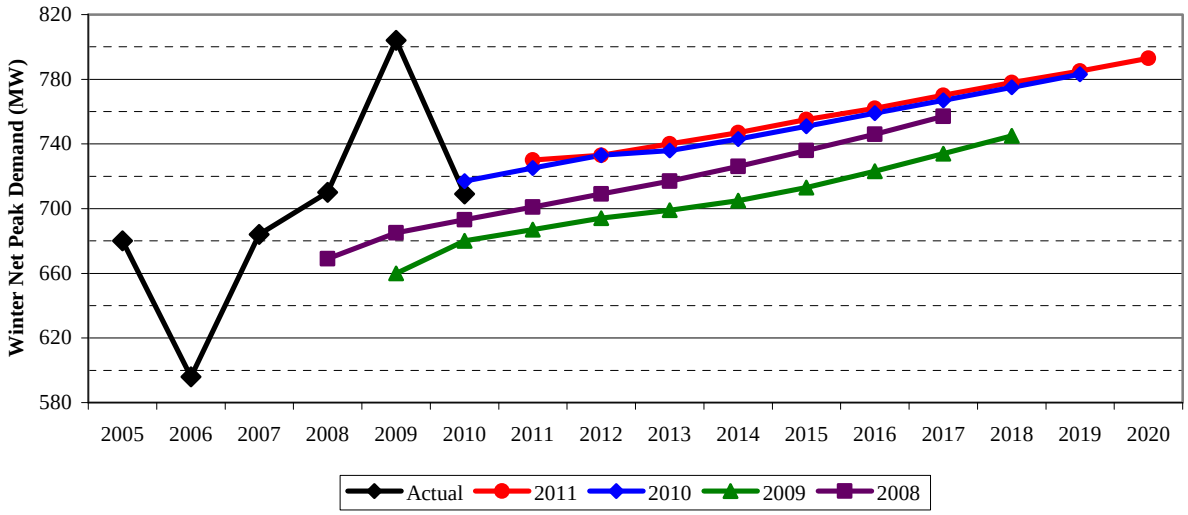
The following three graphs in Figure 46 illustrate LAK's actual summer and winter peak demand and NEL for the years 2005 through 2010. Similar to other utilities, the summer peak demand and NEL were more consistent than the winter peak demand, which fluctuated over the six-year period shown in the graph.

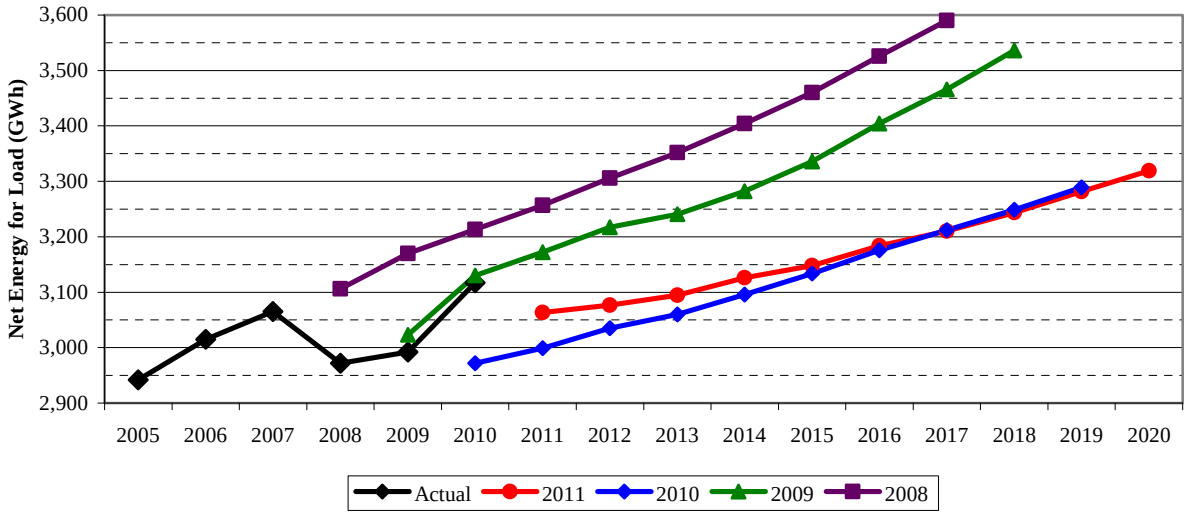
The figure also shows the forecasted values for seasonal peak demand and NEL in the past three TYSPs, as well as the current 2011 forecasts. The 2011 forecasts are very similar to the forecasts from 2010, and the winter season demand forecast for 2011 is practically identical to that from 2010. Unlike most other utilities, the winter demand forecasts for both 2011 and 2010 are higher than the forecast for the 2008 plan year.

Analysis of Lakeland's historical forecast accuracy for total retail energy sales from 2006 through 2010 shows that the average forecast error is 4.49 percent. This value indicates that Lakeland tends to over-forecast its retail energy sales by 4.49 percent. When compared to the overall average forecast error of 2.44 percent for all the TYSP utilities, Lakeland's average error rate is somewhat higher.

Figure 46. LAK: Demand & Energy Forecast







Demand-Side Management

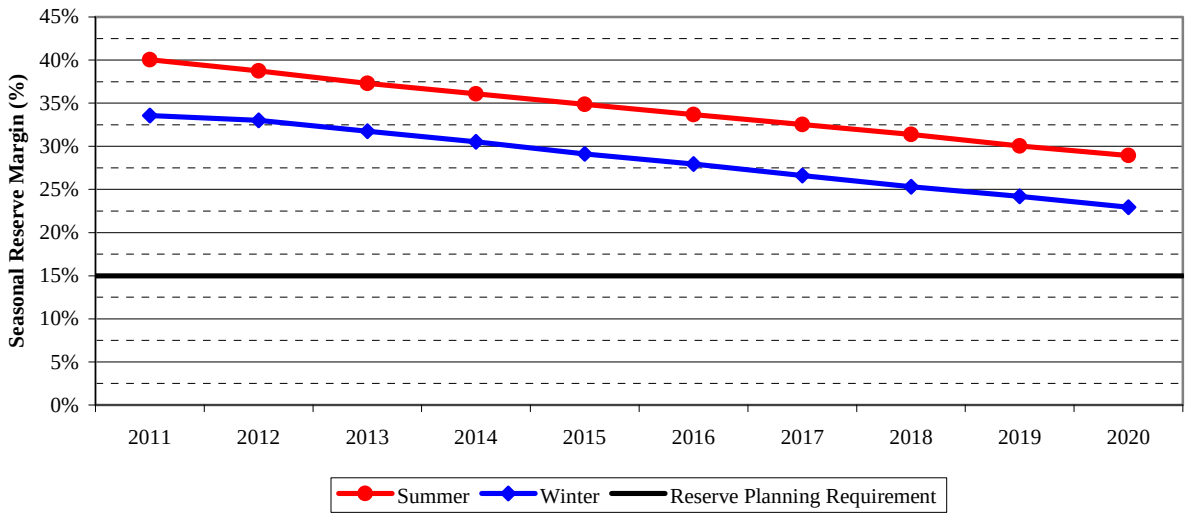
Although Lakeland does not fall under the requirements of FEECA, and therefore is not subject to Commission-set DSM goals, it does have an extensive Energy Conservation & Management Program. In addition, Lakeland administers programs with solar PV systems installed on school rooftops, and solar water heaters installed at customers' homes.

LAK does not include in its DSM program active load management and interruptible load programs that could be incorporated into its reserve margin as non-firm load.

Reliability Criteria

As an FRCC utility, Lakeland maintains a 15 percent minimum reserve margin. As Figure 47 shows, although Lakeland's reserve margin decreases steadily over the planning horizon, it remains well above the minimum level of 15 percent.

Figure 47. LAK: Reserve Margin Projections

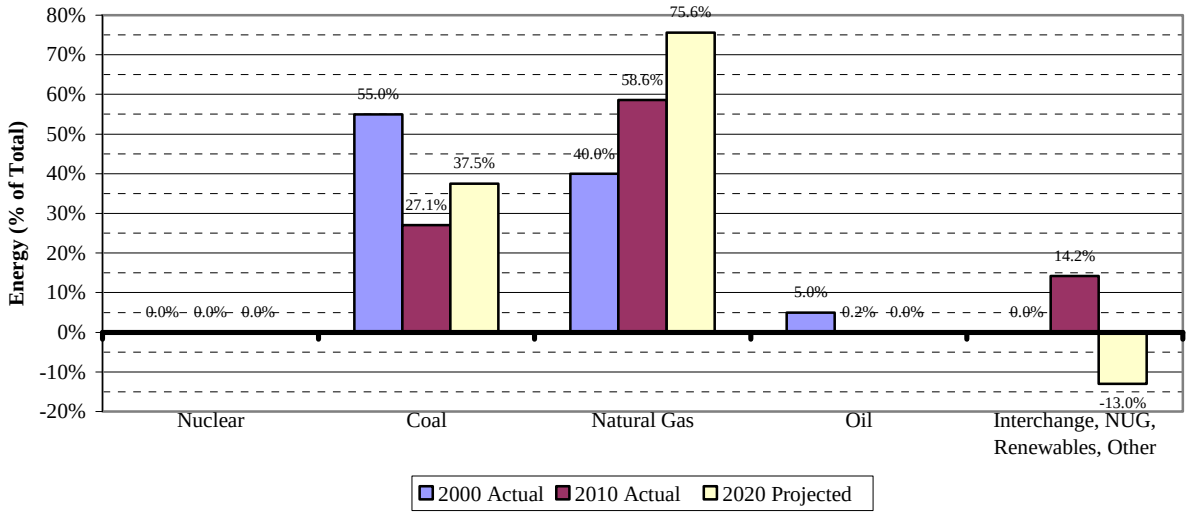


Source: LAK 2011 TYSP

Fuel Diversity

Figure 48 shows the makeup of Lakeland's system in terms of energy generated. The figure illustrates the fact that the percentage of Lakeland's total energy generation that will come from coal and natural gas is expected to increase over the planning horizon. However, this increase will not come from new units, but rather from varying the utilizations of existing units.

Figure 48. LAK: Energy Generation by Fuel Type (Percent of Total)



Source: LAK 2001 and 2011 TYSP

Generation Additions

Lakeland is not planning to add any new generating units in the current planning horizon.

ORLANDO UTILITIES COMMISSION (OUC)

Orlando Utilities Commission (OUC) is a statutory commission created by the Florida Legislature as a separate part of the government of the City of Orlando. OUC is a member of the Florida Municipal Power Pool, along with Lakeland Electric and the FMPA All-Requirements Project (ARP).

OUC's total NEL for 2010 was 6,878 GWh, which represents 2.8 percent of the state total NEL. OUC's summer net firm demand in 2010 was 1,292 MW.

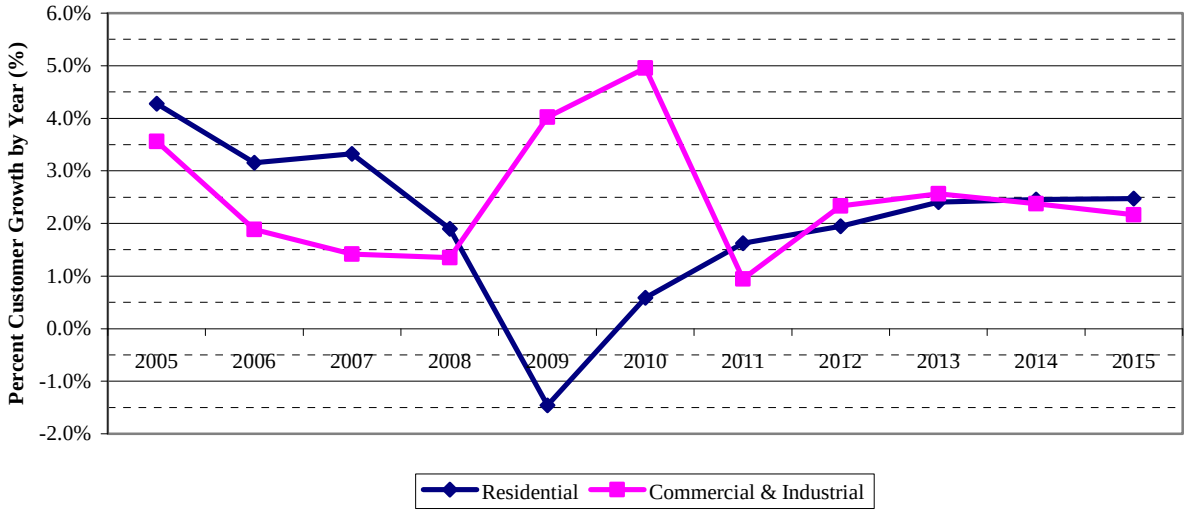
Peak Demand and Energy Forecasts

OUC's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. The NEL for OUC is expected to increase to 8,414 GWh in 2020, and the summer net firm demand is forecasted to be 1,678 MW in 2020.

Figure 49 shows the historic and projected rates of customer growth for OUC for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

OUC's rate of growth for residential customers declined until 2010 when it became positive, a trend that OUC expects to continue with a leveling off in the latter years of the window. The commercial/industrial customer growth rate has been rising for the past two years, but is expected to be negative in 2011 and, like the residential rate, be positive and level in the later years.

Figure 49. OUC: Customer Growth Rates

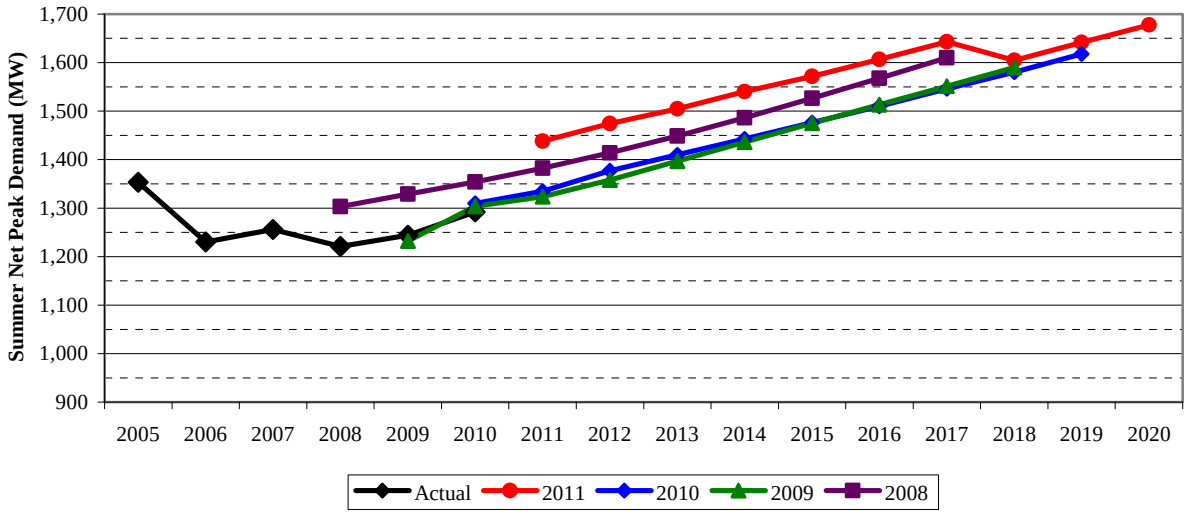


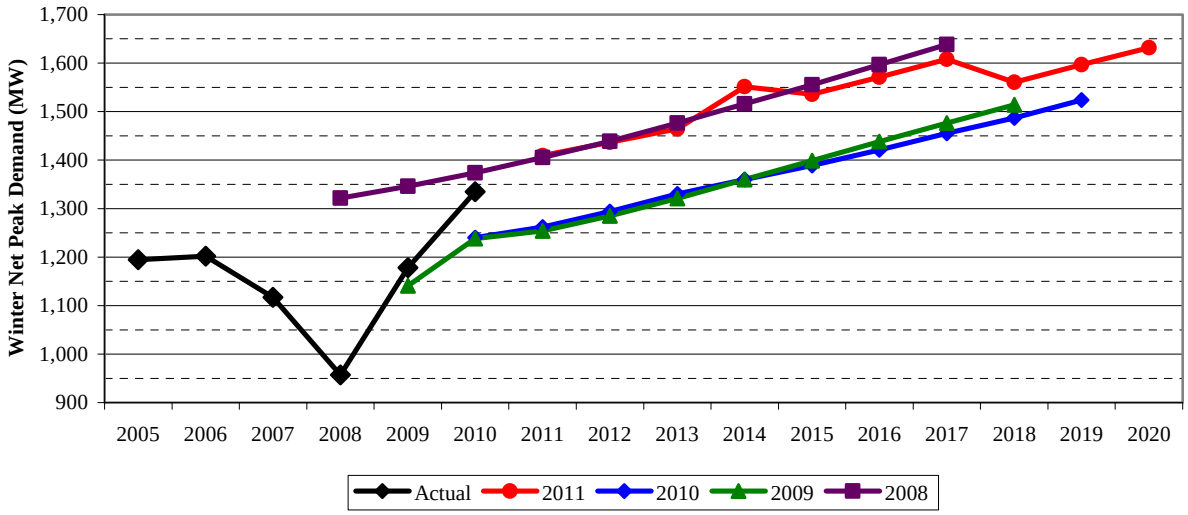
The three graphs in Figure 50 show the actual values for OUC's summer and winter peak demand and its NEL from 2005 through 2010. The summer peak demand leveled off after decreasing in 2006. The winter peak demand decreased each year through 2008, then increased in 2009 and again in 2010. The NEL decreased in 2005, was level for the next four years, then increased in 2010.

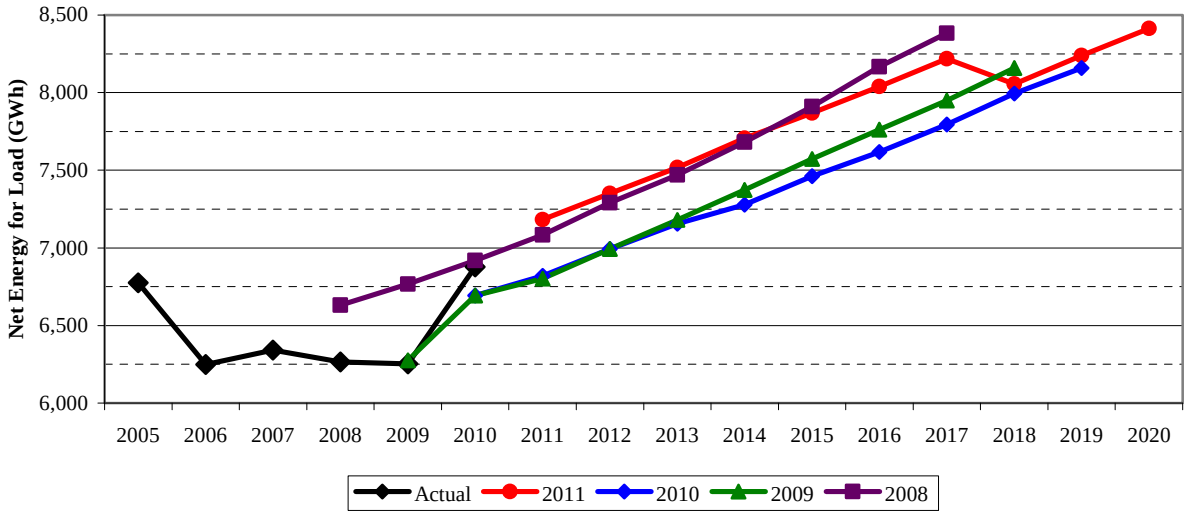
Figure 50 also illustrates the forecasted seasonal peak demands and NEL for 2008, 2009, and 2010, as well as the current 2011 forecasts. Both the summer and winter peak demand forecasts and the NEL forecast were lowered in 2009, and the 2010 forecasts were all very similar to those in 2009. However, in 2011 the summer peak demand forecast was increased to a level slightly above that for 2008, while both the winter peak demand and NEL 2011 forecasts are very similar to the 2008 values.

Analysis of the historical forecast accuracy for OUC's total retail energy sales from 2006 through 2010 results in an average forecast error of 2.92 percent. This figure denotes OUC's tendency to slightly over-forecast its retail energy sales, but it compares well to the overall average forecast error of 2.44 percent for all the TYSP utilities.

Figure 50. OUC: Demand & Energy Forecast







Demand-Side Management

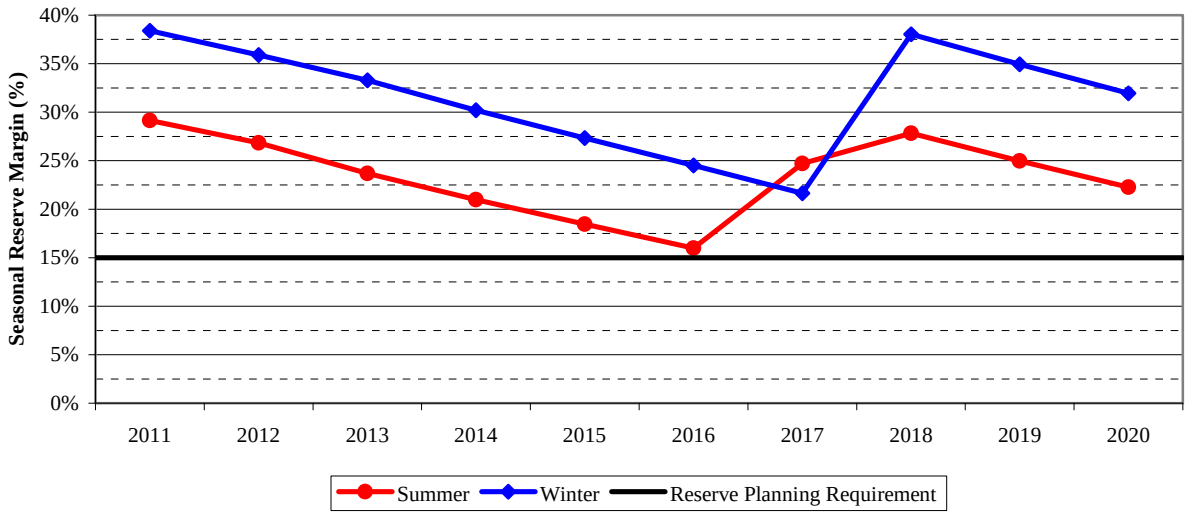
OUC is the second of the two municipal electric utilities that are subject to FEECA requirements and therefore must meet Commission-set DSM goals (the other is JEA). The Commission set new DSM goals for OUC in 2009, and OUC subsequently submitted a new DSM Plan designed to meet these new goals. OUC's DSM plan was approved at the August 31, 2010 Commission Conference.

OUC does not have active load management and interruptible load programs as part of its DSM program, and therefore has no energy efficiency component included in its reserve margin.

Reliability Criteria

OUC maintains a 15 percent reserve margin pursuant to FRCC requirements. Figure 51 displays the summer and winter reserve margin forecasts for the current planning horizon. As the figure shows, the reserve margin decreases steadily until 2016, where the summer reserve margin approaches the 15 percent minimum level. In its 2011 TYSP, OUC shows a new generating unit coming into service in 2017, which accounts for the increased reserve margin at that time.

Figure 51. OUC: Reserve Margin Projections

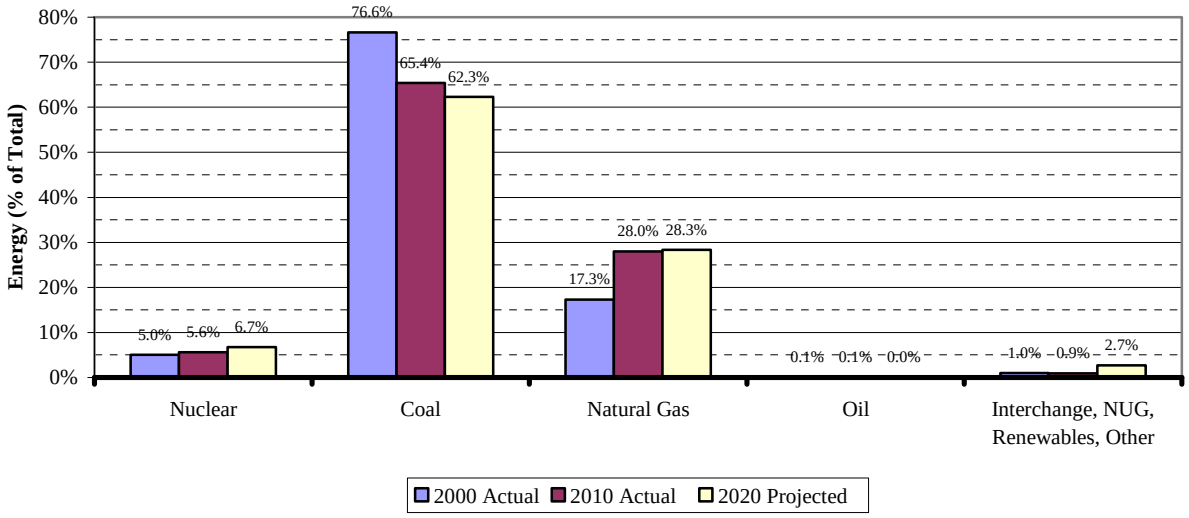


Source: OUC 2011 TYSP

Fuel Diversity

The composition of OUC's system in terms of energy generated is displayed in Figure 52. The figure shows that OUC is not planning to change the composition of its generation system in any significant way throughout the planning horizon.

Figure 52. OUC: Energy Generation by Fuel Type (Percent of Total)



Source: OUC 2001 and 2011 TYSP

Generation Additions

Based on its reserve margin calculations, OUC has determined that additional generation would be needed by 2017 in order to maintain a minimum level of reserve capacity. In order to satisfy this projected reserve margin requirement, OUC has assumed that a simple cycle combustion turbine would be constructed at its Stanton Energy Center. However, OUC will continue to evaluate alternative options and has made no commitment to construct the unit.

Table 19. OUC: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Stanton Energy Center CT	185	n/a	n/a	4/2017

Source: OUC 2011 TYSP

SEMINOLE ELECTRIC COOPERATIVE (SEC)

Seminole Electric Cooperative, Inc. (SEC) is a corporation that provides electric power to its ten distribution members' systems. These members are all regional cooperatives that purchase power from SEC under long-term wholesale power contracts. SEC serves its members' loads with a combination of owned and purchased power resources.

SEC had a total summer net firm generating capacity of 3,548 MW and generated 17,346 GWh in 2010, which makes up 7.0 percent of the total NEL for the State of Florida.

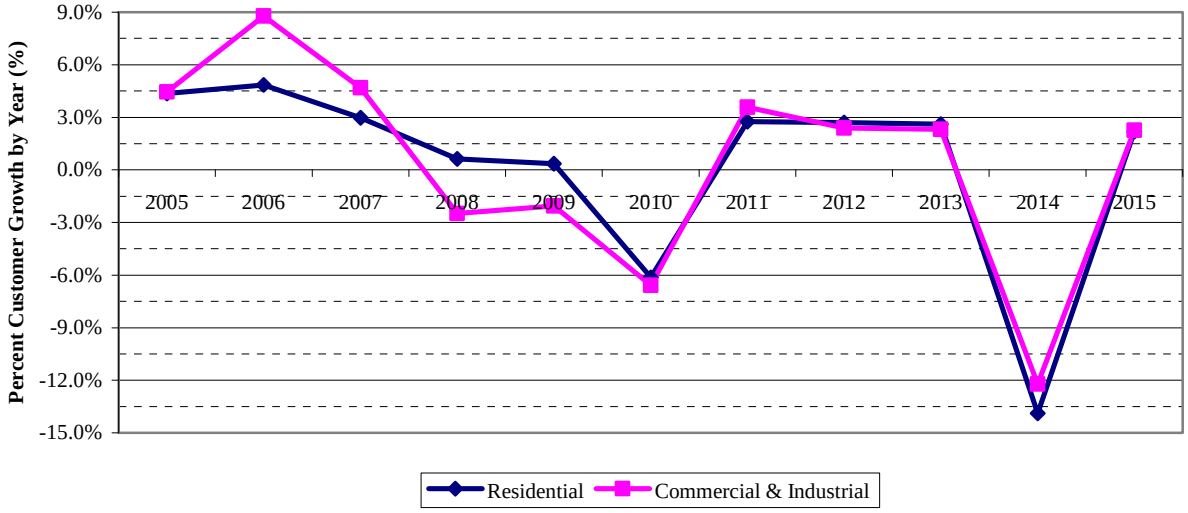
Peak Demand and Energy Forecast

SEC forecasts that in 2020, its summer net firm peak demand will increase to 4,072 and it will generate 18,691 GWh.

SEC's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. Figure 53 shows the historic and projected rates of customer growth for SEC for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

Because SEC's members serve significant portions of the less urbanized areas of the state which are located adjacent to metropolitan areas, SEC's customer growth rates are impacted by suburban growth around these urban centers. The growth rates shown in Figure 53 illustrate this fluctuation. The drop in customers in 2014 is due to the Lee County Electric Cooperative load no longer being served by SEC beginning January 1, 2014.

Figure 53. SEC: Customer Growth Rates



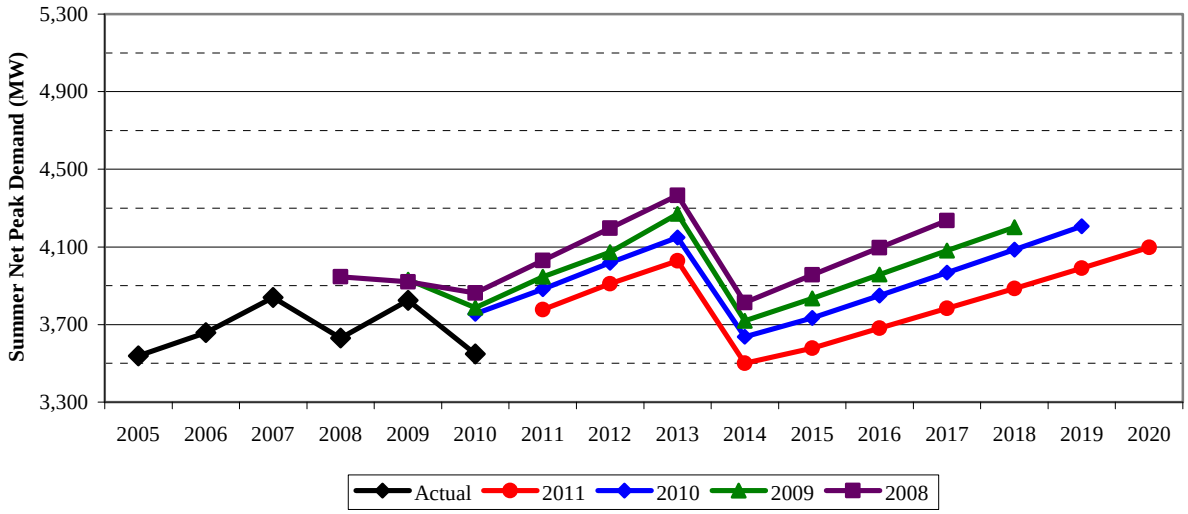
The three graphs in Figure 54 show the actual values for SEC's summer and winter peak demand, and its NEL from 2005 through 2010. In addition, the forecasts for each of these quantities is shown for the 2008, 2009, and 2010 plan years, as well as that of the current plan year.

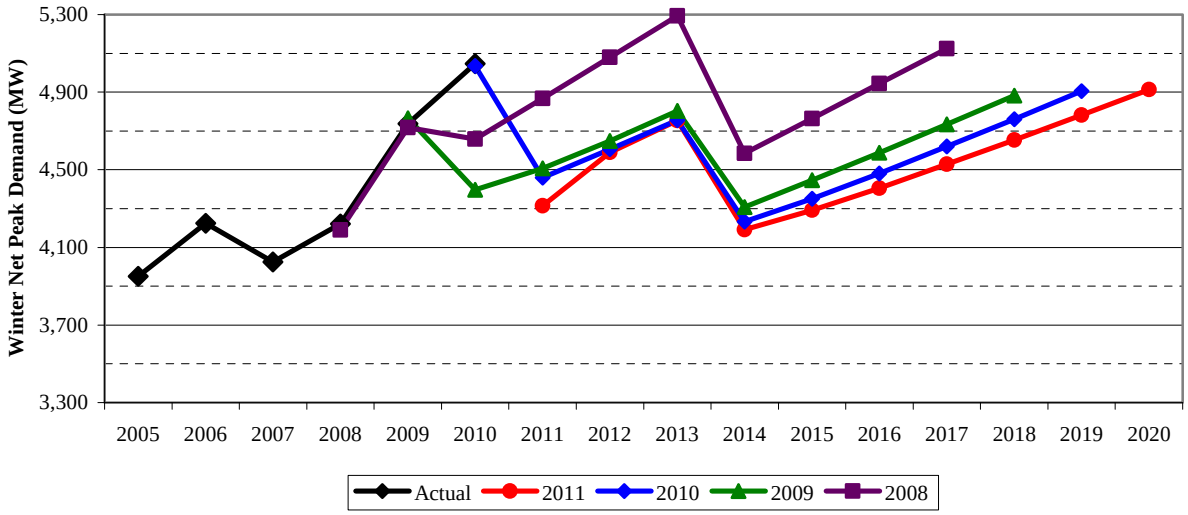
Both of the seasonal peak demand forecasts, as well as the NEL forecast, are quite consistent with previous forecasts. All three forecasts have been lowered each year, and the latest forecast in 2011 is the lowest.

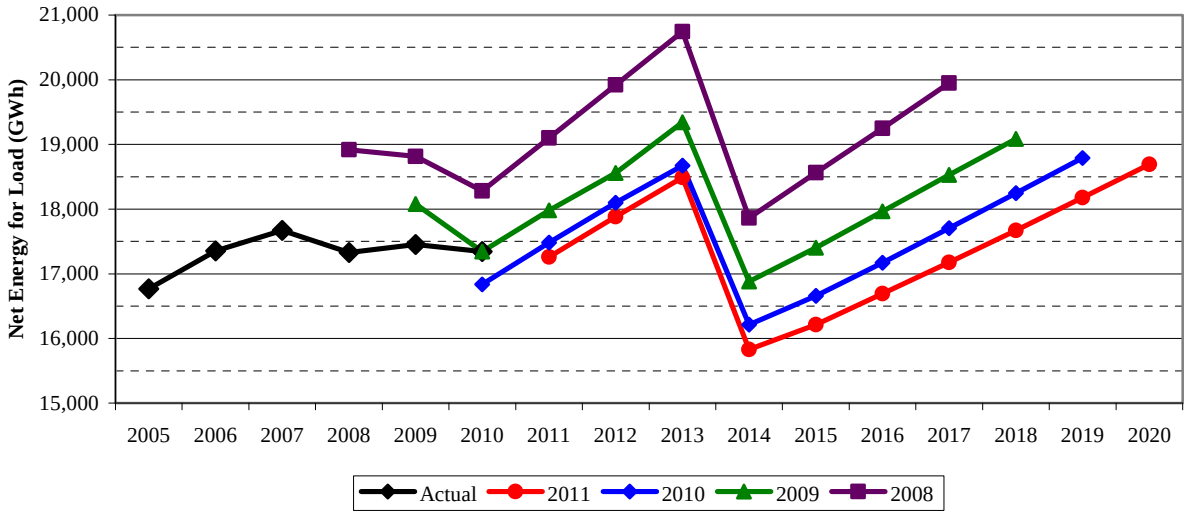
All of the forecasts project the demand and NEL to increase steadily with the exception of the year 2014. As discussed previously, beginning in 2014 SEC will no longer serve the load of Lee County. The elimination of Lee County's load causes the forecasts for demand and energy to decrease significantly.

Analysis of SEC's historical forecast accuracy for total retail energy sales from 2006 through 2010 shows that the average forecast error is 0.08 percent. This value indicates that SEC tends to over-forecast its retail energy sales by 0.08 percent. When compared to the overall average forecast error of 2.44 percent for all the TYSP utilities, SEC's error rate is much lower and is, in fact, the lowest of all the TYSP utilities.

Figure 54. SEC: Demand & Energy Forecast







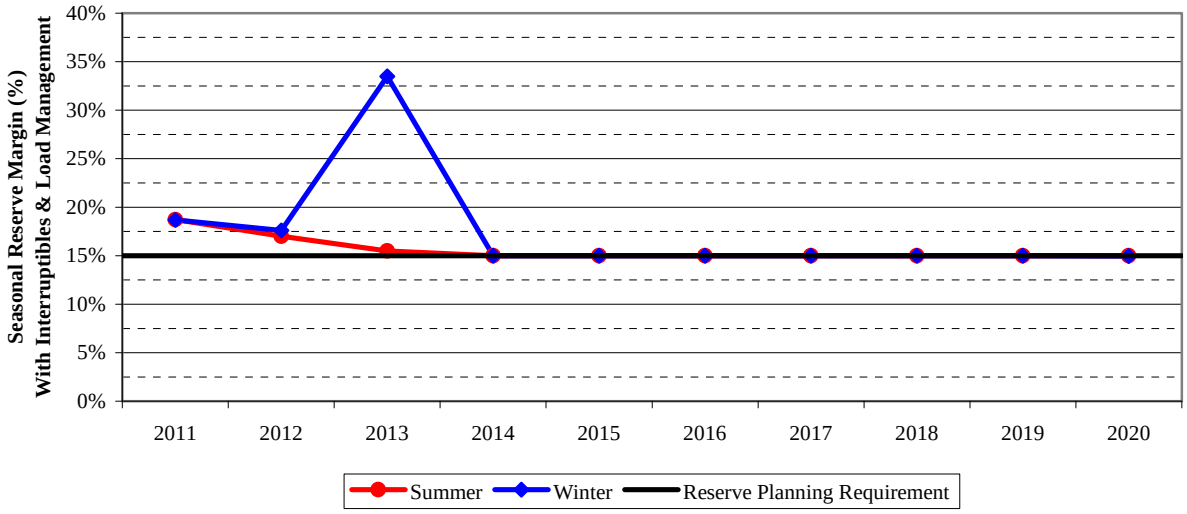
Demand-Side Management

Because SEC is a generation and transmission rural electric cooperative that serves only wholesale customers, SEC cannot offer conservation or DSM programs directly to retail customers. However, SEC promotes member involvement in DSM through its wholesale rate signals and two specific management programs: 1) a coordinated load management program; and 2) a load management distributed generation program. Also, SEC's member utilities offer DSM programs directly to their respective retail customers.

Reliability Criteria

SEC maintains the FRCC minimum 15 percent planning reserve margin. Figure 55 illustrates SEC's forecasted reserve margin over the ten-year planning horizon for the summer and winter seasons. As the figure shows, SEC expects to meet the 15 percent minimum level of reserve through the horizon, with an excess of winter season reserve occurring in 2013. The reason for this spike is that SEC has executed two purchased power contracts with PEF for 2013, as well as other purchased power in that year. Because some of these contracts overlap in 2013, there is a spike in the reserve for that year only.

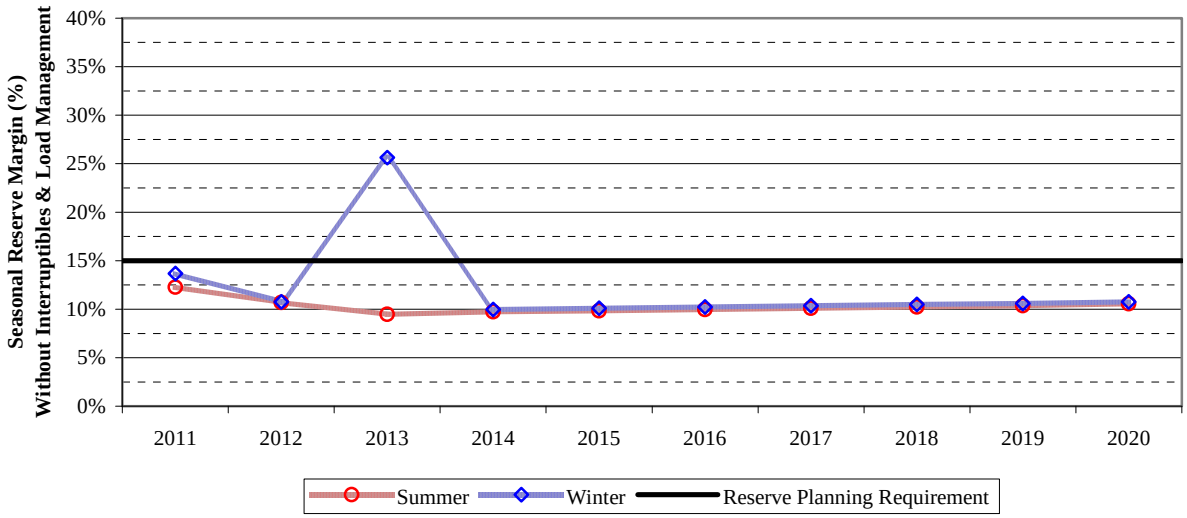
Figure 55. SEC: Reserve Margin Projections



Source: SEC 2011 TYSP

Because SEC does offer load management programs, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in Figure 56. As the figure shows, SEC's generation-only reserve is projected to remain at approximately 10 percent.

Figure 56. SEC: Generation-Only Reserve Margin Projections

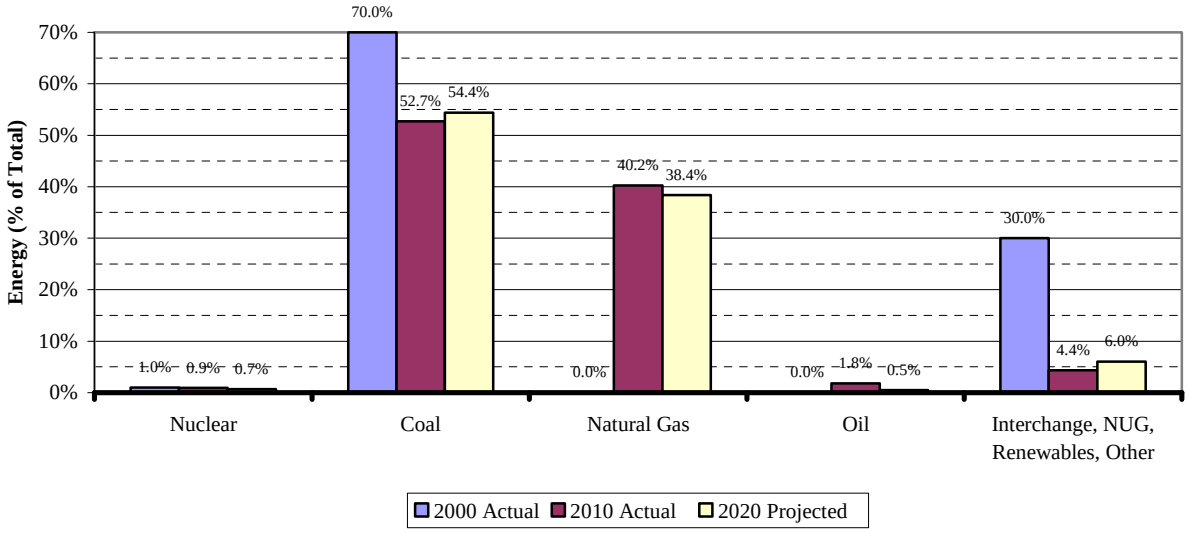


Source: SEC 2011 TYSP

Fuel Diversity

Figure 57 displays the composition of SEC's system in terms of energy generated. As the figure shows, the amount of energy generated by coal units decreased in the years since 2000, and will increase slightly over the next ten years. SEC did not have any generation from natural gas in 2000, but now a significant portion of its generation comes from natural gas units. Another significant change since 2000 is the drop in purchased power, from 30 percent to just over 4 percent last year. The overall generation mix is projected to remain approximately the same over the planning horizon.

Figure 57. SEC: Energy Generation by Fuel Type (Percent of Total)



Source: SEC 2001 and 2011 TYSP

Generation Additions

Table 20 shows in detail the expansion plan in SEC's 2011 TYSP. One CT unit is planned to become operational in 2018, two CTs in 2019, and three CTs in 2020. In addition, SEC is planning to have two new CC units coming in-service in 2020. Two of the CTs and both of the CCs are appearing in SEC's TYSP for the first time in 2011.

Table 20. SEC: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Future CT 1	158	n/a	n/a	12 / 2018
Future CT 2	158	n/a	n/a	12 / 2019
Future CT 3	158	n/a	n/a	12 / 2019
Future CT 4	158	n/a	n/a	12 / 2020
Future CT 5	158	n/a	n/a	12 / 2020
Future CT 6	158	n/a	n/a	12 / 2020
Combined Cycle Unit Additions				
Future CC 1	196	None yet	None yet	12 / 2020
Future CC 1	196	None yet	None yet	12 / 2020

Source: SEC TYSP

CITY OF TALLAHASSEE (TAL)

The City of Tallahassee (TAL) owns, operates, and maintains it electric generation, transmission, and distribution system that supplies electric power in and around the corporate limits of the City.

Tallahassee had a total summer net firm generating capacity of 601 MW and generated 2,931 GWh in 2010, which makes up 1.2 percent of the total NEL for the State of Florida.

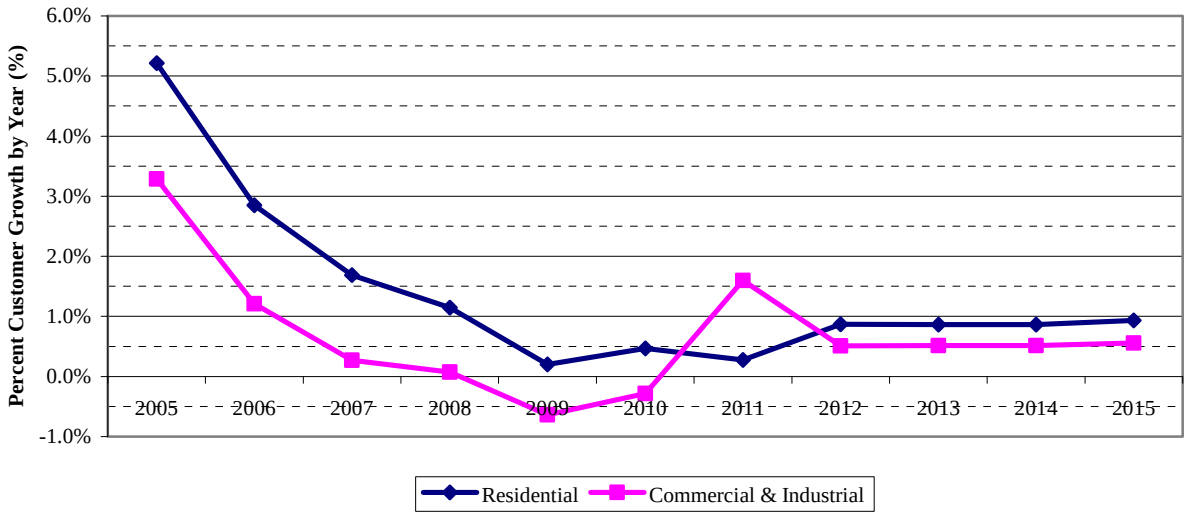
Peak Demand and Energy Forecast

Tallahassee forecasts that in 2020, its summer net firm peak demand will be 529 MW, and it will generate 2,711 GWh.

Tallahassee's peak demand and energy forecasts include projections of customer growth, seasonal peak demand, and NEL. Figure 58 shows the historic and projected rates of customer growth for TAL for the years 2005 through 2015. The values for 2005 through 2010 are actual values, and those for 2011 through 2015 are projected.

Figure 58 shows that Tallahassee has lost customers in four of the previous five years. The rate of growth over the next five years is projected to remain at less than one percent.

Figure 58. TAL: Customer Growth Rates



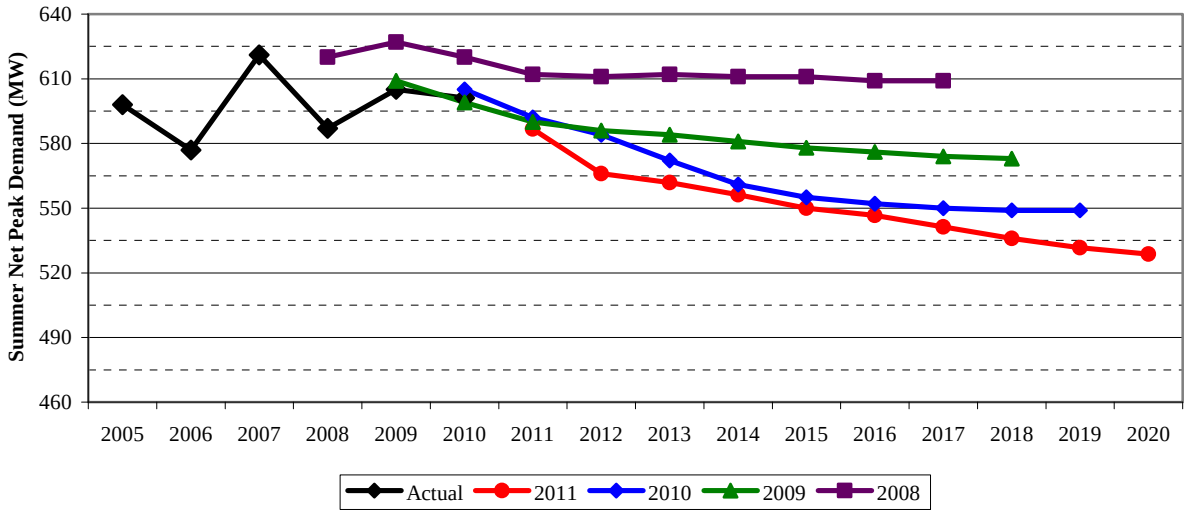
The three graphs in Figure 59 show the actual values for TAL's summer and winter peak demand, and its NEL from 2005 through 2010. The figure also shows the forecasts for each of these quantities for the 2008, 2009, 2010, and 2011 plan years.

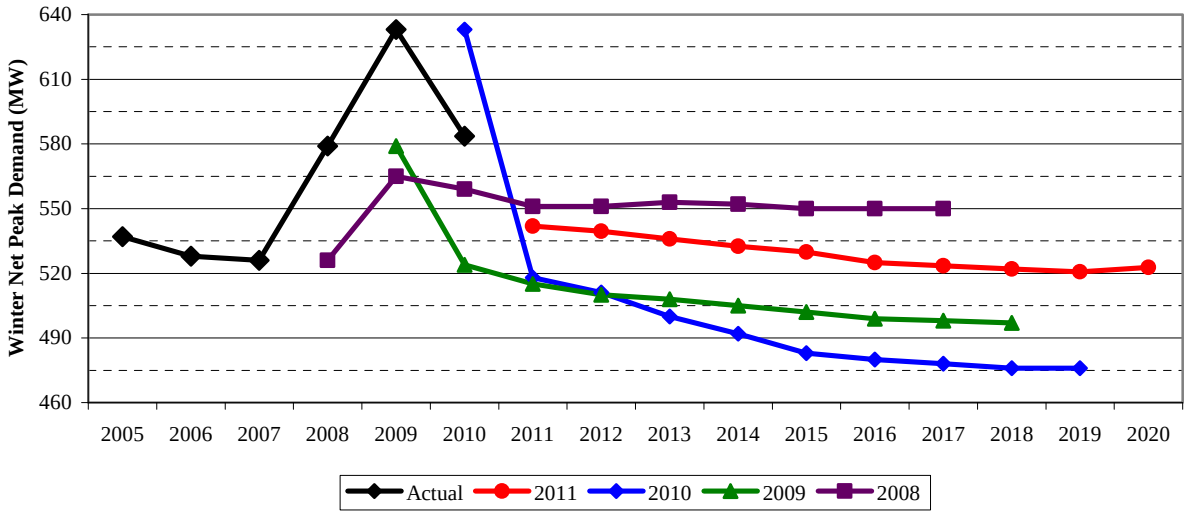
The current summer peak demand forecast is lower than any previous forecast shown in the chart. The current winter peak demand forecast is higher than the two previous forecasts, but lower than the 2008 projection. Both seasonal demand forecasts, however, are projecting a decreasing demand over the ten-year planning horizon.

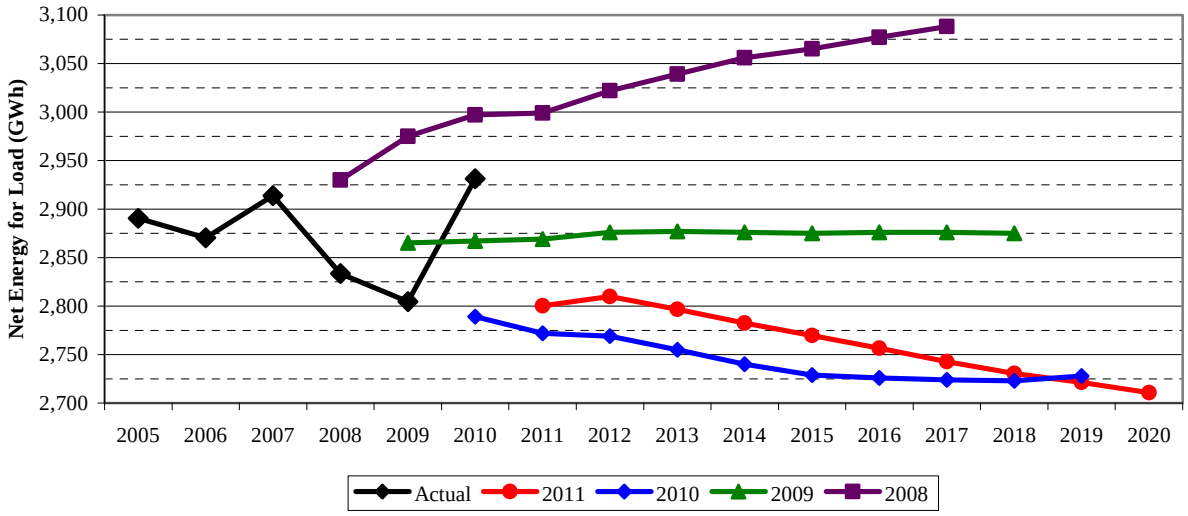
The current NEL forecast is higher than the 2010 projection, but lower than both the 2008 and the 2009 forecasts. Like the peak demand forecasts, the NEL forecast is projecting a decreasing load for the entire planning horizon.

Analysis of the historical forecast accuracy for Tallahassee's total retail energy sales from 2006 through 2010 results in an average forecast error of 2.5 percent. This figure denotes Tallahassee's tendency to slightly over-forecast its retail energy sales by 2.5 percent, but it compares well to the overall average forecast error of 2.44 percent for all the TYSP utilities.

Figure 59. TAL: Demand & Energy Forecast







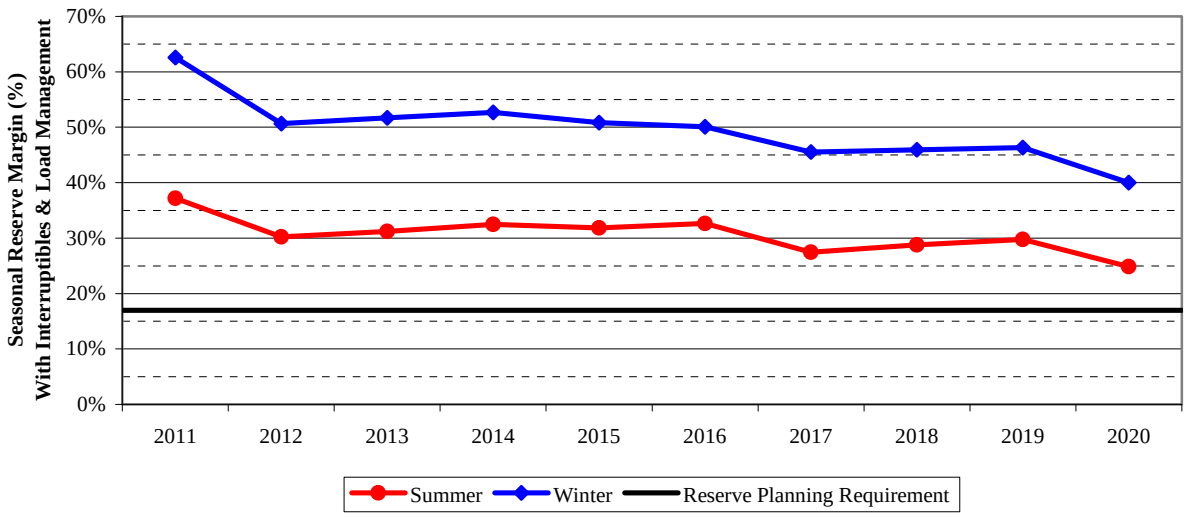
Demand-Side Management

Although Tallahassee does not fall under the requirements of FEECA, and therefore is not subject to Commission-set DSM goals, it does have Energy Efficiency and Demand-Side Management Programs, for both residential and commercial customers. TAL does administer active load management or interruptible programs which increase the overall reserve margin.

Reliability Criteria

Tallahassee is affiliated with the FRCC and therefore maintains a 15 percent reserve margin. Figure 60 shows that, over the entire ten-year planning horizon, Tallahassee has sufficient reserve capacity.

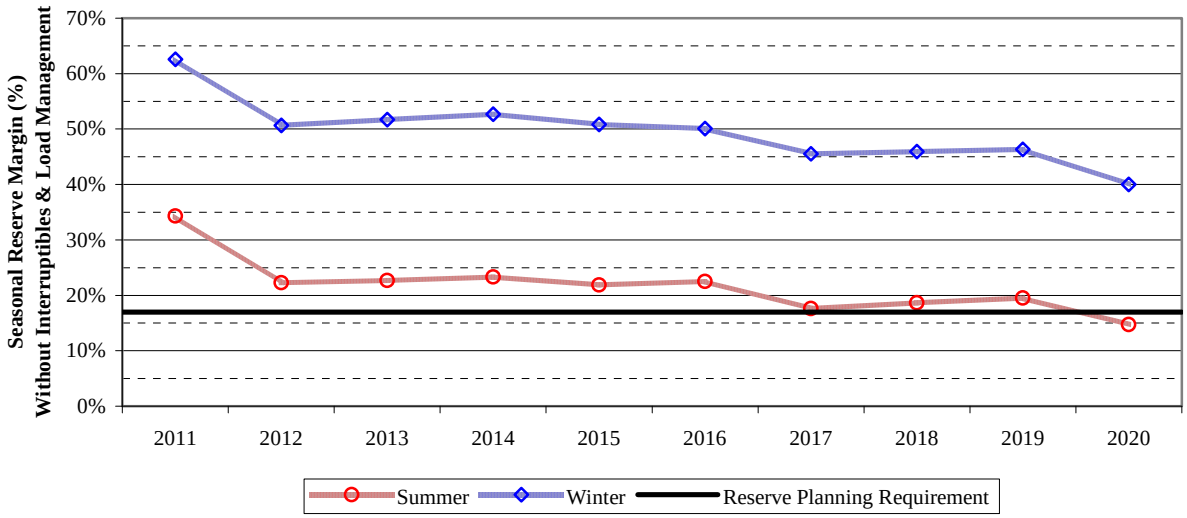
Figure 60. TAL: Reserve Margin Projections



Source: TAL 2011 TYSP

Because TAL does have active load management and interruptible load programs in place, a portion of its reserve margin can be attributed to non-firm load. The measure of reserve margin without any contribution from demand-side programs is shown in Figure 61. The figure shows that TAL's level of reserve margin from supply-side resources is sufficient.

Figure 61. TAL: Generation-Only Reserve Margin Projections

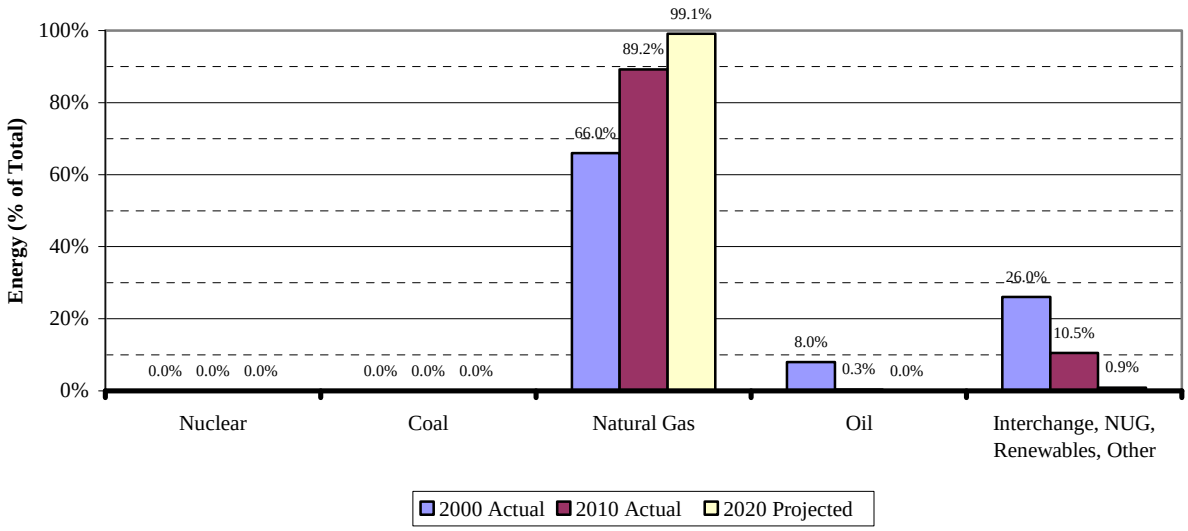


Source: TAL 2011 TYSP

Fuel Diversity

Figure 62 displays the composition of Tallahassee's system in terms of energy generated. The figure shows clearly that Tallahassee generates the vast majority of its energy from natural gas sources, and by 2020 natural gas units will produce very nearly 100 percent of the total energy generated. Purchased power is the only other source of significance, although a small amount of renewable energy is generated. Other than purchasing less energy over the planning horizon, Tallahassee's energy generation is not expected to change appreciably.

Figure 62. TAL: Energy Generation by Fuel Type (Percent of Total)



Source: TAL 2001 and 2011 TYSP

Generation Additions

Tallahassee has only one new generating unit in its 2011 TYSP. Hopkins unit 5, a 46 MW CT, is planned to be operational in 2020. This unit is appearing in Tallahassee's TYSP for the first time in 2011. Table 21 displays this information.

Table 21. TAL: Generation Additions by Technology Type

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date
		Need Approved (Commission)	PPSA Certified	
Combustion Turbine Unit Additions				
Hopkins CT 5	46	n/a	n/a	5/2020

Source: TAL 2011 TYSP

APPENDIX A TO THE REVIEW OF THE 2011 TEN-YEAR SITE PLANS

FOR FLORIDA'S ELECTRIC UTILITIES

COMMENTS FROM

STATE, REGIONAL, AND LOCAL AGENCIES

Florida Public Service Commission

Tallahassee, FL

November, 2011

Ten-Year Site Plan Comments

State Agencies

- Fish & Wildlife Conservation Commission
- Florida Department of Transportation

Regional Planning Councils

- Central Florida RPC
- East Central Florida RPC
- North Central Florida RPC
- Northeast Florida RPC
- South Florida RPC
- Treasure Coast RPC
- Withlacoochee RPC

Water Management Districts

- South Florida WMD
- Southwest Florida WMD
- St. Johns River WMD

State Agencies

Fish & Wildlife Conservation Commission

May 5, 2011

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RE: Multiple Utilities 2011 Ten Year Site Plans

Dear Ms. Matthews:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated agency review of the 2011 Ten Year Power Plant Site Plans submitted to the Public Service Commission (PSC).

We will be providing comments on several of the site plans under separate cover. However, we have no comments on the Ten Year Site Plans for the following utilities:

City of Tallahassee
Florida Municipal Power Agency
Gulf Power Company
JEA
Lakeland Electric
Orlando Utilities Commission
Progress Energy Florida
Tampa Electric Company

We appreciate the opportunity to review the Ten Year Site Plans submitted to the PSC. If you have any questions regarding the information provided in this letter, please do not hesitate to contact me at Joe.Walsh@myfwc.com or by phone at (850) 413-6966.

Sincerely,

Joseph Walsh, Ph.D.
Sub-section Leader
Habitat Conservation Scientific Services Section

jw/jg
ENV 2-11-4/3
2011 Ten Year Site Plans

July 22, 2011

Florida Fish and Wildlife Conservation Commission

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RE: 2011 Update to the Florida Power and Light Company 10-year Power Plant Site Plan 2011-2020, Multi-County

Dear Mr. Ellis:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated our agency's review of the above-referenced 10-year Site Plan and provides the following comments and recommendations in accordance with Section 186.801, Florida Statutes (F.S.) and Rule 25-22.071, Florida Administrative Code (F.A.C.).

Project Description

The update to the Florida Power and Light Company (FPL) 10-year Power Plant Site Plan (Plan) includes the increase, or "uprate", of generating capacity at FPL's four existing nuclear generation units between 2011 and 2013; planned maintenance of combustion turbines at several plants; placing a number of existing generating units on Inactive Reserve status; updating and modernizing the Cape Canaveral site (2013) and Riviera site (2014); updates to several transmission lines; and a projected need by 2016 to add a combined cycle generation plant at a future greenfield site.

Based on FPL's projected future resource needs, five (5) Preferred Sites and 13 Potential Sites are identified as potential future generation plant additions. Preferred Sites are those locations where FPL generation currently exists and significant actions have occurred or where activity is likely to occur. Potential Sites are those sites that have attributes that support the siting of generation and are under consideration as a location for future development. A description of the Preferred and Proposed sites is provided below.

Preferred Sites

Preferred Site #1: West County Energy Center, Palm Beach County: One combined cycle natural gas unit (Unit 3) was approved in November 2008 by the Florida Public Service Commission (FPSC) and the Secretary of the Florida Department of Environmental Protection (FDEP). Construction of Unit 3 began in 2009 with an anticipated in-service date of June 2011.

Preferred Site #2: St. Lucie Plant, St. Lucie County: The nuclear generating units were approved in January 2008 for a capacity "uprate" by the FPSC. The added capacity is scheduled to be partially in-service beginning in 2011 and entirely in-service by 2012. The increase in capacity will involve changes to components within the existing facility.

Preferred Site #3: Turkey Point Plant, Miami-Dade County: The nuclear generating units were approved in January 2008 for a capacity "uprate" by the FPSC. The added capacity is scheduled to be partially in-service beginning in 2012 and entirely in-service by 2013. The increase in capacity will involve changes to components within the existing facility.

FPL is pursuing licensing for two new nuclear units at the Turkey Point site, but this licensing is beyond the purview of the Plan. However, FWC is actively involved in the State power plant siting process and will continue to coordinate with FPL on fish and wildlife resource issues for this site.

Preferred Site #4: Cape Canaveral Plant, Brevard County: The facility is currently being updated to replace two steam generating units with a single modern, high efficiency, lower-emission combined cycle unit. When construction is completed, the plant will be renamed the Cape Canaveral Next Generation Clean Energy Center. State- and federally listed species occur within or near the property. Pursuant to the Conditions of Certification provided by the FDEP (PA 08-53), a heating system and monitoring report is required in order to prevent an increased risk of manatee cold stress death during the conversion construction period. Listed-species surveys are also required prior to land clearing and construction activities, and coordination with the appropriate agency. FWC provided Conditions of Certification to FDEP regarding this location and if modifications to the existing certification are necessary, we will address the modifications at that time.

A gopher tortoise conservation permit was granted (GTC-11-00032) authorizing the capture, removal, and relocation of up to 17 gopher tortoises from a 9-acre laydown area adjacent to the Plant.

Preferred Site #5: Riviera Plant, Palm Beach County: The facility is currently being updated to replace older generating units with a single modern, high efficiency, lower-emission, combined cycle unit. When construction is completed, the plant will be renamed the Riviera Beach Next Generation Clean Energy Center; the new unit is projected to be in service in mid-2014. Warm water discharges from the Plant attract manatees and in 2009, FPL installed a temporary heating system in order to prevent an increased risk of manatee cold stress death during the cold season.

Potential Sites

FPL is evaluating 13 Potential Sites throughout Florida. These sites include: approximately 440 acres on Babcock Ranch, Charlotte County; approximately 5,200 acres for a future photovoltaic facility (DeSoto Solar Expansion) in DeSoto County; approximately 1,500 acres for a future photovoltaic facility (Florida Heartland) in Glades County; approximately 1,500 acres for a future photovoltaic facility or fossil generation plant in Hernando County; 9,500 acres at the FPL Manatee Plant site for a photovoltaic

facility in Manatee County; approximately 1,500 acres for a future photovoltaic facility or fossil generation plant in northeast Okeechobee County; approximately 170 acres for future fossil generation at the dismantled FPL Palatka Plant, Putnam County; approximately 2,800 acres for a future photovoltaic facility or fossil generation plant in Putnam County; approximately 1,500 acres for a future photovoltaic facility or fossil generation plant in southwest Indian River County; expansion of the photovoltaic facility (Space Coast Solar Expansion) in Brevard County; and two sites of unidentified acreage, one in Martin County for a future photovoltaic facility, and one in western unincorporated Broward County for a possible fossil generation plant. Lastly, the 94-acre Port Everglades Plant in Broward County is being considered for modernization.

Comments and Recommendations

Several Preferred and Potential Sites are within or adjacent to environmentally sensitive lands that can support a variety of state- and federally listed species. A geographic information system (GIS) analysis illustrates that associated facilities (e.g., transmission lines) may intersect publically managed lands, including:

- Big Cypress National Preserve
- Biscayne National Park
- Caravelle Ranch Conservation Area and Wildlife Management Area
- Everglades and Francis S. Taylor Wildlife Management Area
- Florida Panther Conservation Bank (I and II) Conservation Easement
- Fort Drum Marsh Conservation Area
- Green Swamp Preserve
- Kissimmee River and Kissimmee Prairie Preserve State Park
- Merritt Island National Wildlife Refuge
- Ocala National Forest
- Okaloacoochee Slough State Forest
- Rotenberger Wildlife Management Area

As FPL continues to examine the potential location(s) for additional generation facilities, we recommend they coordinate with the FWC to identify locations that are least likely to cause adverse impacts to fish and wildlife resources. We encourage FPL to consider expansion in those Preferred Locations where FPL facilities already exist and to limit expansion in environmentally sensitive lands within the Potential locations, when practicable. In FPL's 2009 and 2010 10-year plan updates, the Ft. Myers site was being considered as an additional generation site with the Caloosahatchee River as its water source. We expressed some concerns about the potential impacts to the Caloosahatchee River habitat and its downstream estuary as a result of proposed expansion. FPL did not include the Ft. Myers site in the most recent Plan. As such, FPL's 10-year Plan has addressed the wildlife-related issues raised in our previous comments.

We find FPL's 2011 update to its 10-Year Site Plan to be adequate for planning purposes. If you or your staff would like to coordinate further regarding this review, please contact me at 850-413-6966, or by email at Joe.Walsh@myfwc.com and I will be glad to make appropriate arrangements. If your staff or representatives of FPL have specific questions

regarding the content of this letter, please have them contact Ben Shepherd at 407-858-6170, or by email at Ben.Shepherd@myfwc.com.

Sincerely,

Joseph Walsh, Ph.D.
Sub-section Leader
Habitat Conservation Scientific Services Section

jw/jdg/bs
FPL 2011_3346_072211
ENV 2-11-2/3

cc: Florida Power & Light Company
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May 31, 2011

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RE: Gainesville Regional Utilities 2011 Ten-Year Site Plan, Multi-Co.

Dear Ms. Matthews:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated our agency's review of Gainesville Regional Utilities' 2011 Ten-Year Power Plant Site Plan submitted to the Public Service Commission (PSC) and we have no comments or recommendations on the proposed plan.

We appreciate the opportunity to review the Ten-Year Site Plans submitted to the PSC. If you have any questions regarding our review of this proposal, please do not hesitate to contact me at Joe.Walsh@myfwc.com or by phone at (850) 413-6966.

Sincerely,

Joseph Walsh, Ph.D.
Sub-section Leader
Habitat Conservation Scientific Services Section

jw/ld
ENV 2-11-4/3
Gainesville Regional Utilities 2011_3358_053111

July 22, 2011

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RE: 2011 Seminole Electric Cooperative's 10-Year Site Plan, Multi-County

Dear Mr. Ellis:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated our agency's review of the above-referenced 10-year Site Plan and provides the following comments and recommendations in accordance with Section 186.801, Florida Statutes (F.S.) and Rule 25-22.071, Florida Administrative Code (F.A.C.).

Project Description

In its 2011 update, Seminole Electric Cooperative (SEC) identifies the need to develop a new power-generating facility on its Gilchrist Generating Station site, including six power generating units, two transmission rights-of-way, and a switch station. SEC does not anticipate modifications to the Seminole Generating Station in Putnam County nor the Midulla Generating Station in Hardee and Polk Counties at this time.

Potential Information Needs

Gilchrist Generating Station Site: The Plan outlines SEC's intention to develop this 530-acre site for six new power generating units. In addition, the Plan calls for the development of two transmission line rights-of-way and a switching station located at a future intersection with Progress Energy-Florida's Ft. White-Newberry transmission line. Although they provide a general description of the environmental conditions at the proposed new generating station site and a very large scale location map, they do not provide enough detail for a complete site analysis. Specific locations of the proposed generating units, transmission lines, and the switching station would be necessary to identify potential fish and wildlife resource issues prior to development of this site.

Potential Issues and Recommendations

FWC has conducted a Geographic Information System (GIS) analysis and according to our review, the proposed Gilchrist Generating Station site contains, is adjacent to, or occurs near:

- An FNAI under represented natural community- sandhill;
- The Wannee Conservation Area – Suwannee River Water Management District.

This area contains habitats that may support a diverse array of wildlife species, including 13 that are protected by state and/or federal law.

Occurring and Potentially Occurring Listed Wildlife Species

Common Name	***Scientific Name***	**Status***
Gopher frog	*Rana capito*	SSC
Gopher tortoise	*Gopherus polyphemus*	ST
Eastern indigo snake	*Drymarchon corais couperi*	FT
Short-tailed snake	*Stilosoma extenuatum*	ST
Little blue heron	*Egretta caerulea*	SSC
Snowy egret	*Egretta thula*	SSC
White ibis	*Eudocimus albus*	SSC
Wood stork	*Mycteria americana*	FE
Sherman's fox squirrel	*Sciurus niger shermani*	SSC
Florida black bear	*Ursus americanus floridanus*	ST
Burrowing owl	*Athene cunicularia*	SSC
Southeastern American kestrel	*Falco sparverius paulus*	ST
Florida mouse	*Podomys floridanus*	SSC

* SSC - Species of Special Concern; ST - State Threatened; FT - Federally Threatened; FE - Federally Endangered

The existing xeric habitat onsite, which includes approximately 131.5 acres of longleaf pine/xeric oak on well-drained sandhill and approximately 40 acres of xeric oak, may have a high potential for occupation by listed species. FWC understands that Seminole Electric has volunteered to avoid the onsite wetlands through careful planning and layout of the facilities. Because of the environmentally sensitive nature of the xeric habitats onsite, we would like to assist Seminole Electric during the site layout planning stages. Careful planning of the site may facilitate the preservation of these sensitive habitats and possibly their connections to similar offsite habitats. We have staff available to assist Seminole Electric prior to preparing their next update to assist with any questions or information needs concerning fish and wildlife resources in the vicinity of their properties.

We find Seminole Electric's 10-year site plan adequate for planning purposes. If your office or the applicants would like to coordinate further with the FWC on this plan, please have them contact me at 850-413-6966, or by email at Joe.Walsh@myfwc.com and I will be glad to make appropriate arrangements. If they have specific questions regarding the content of this letter, please have them contact James McLaughlin at 863-647-4000 or by email at James.McLaughlin@myfwc.com.

Sincerely,

/Thomas Walsh

Joseph Walsh, Ph.D.
Sub-section Leader
Habitat Conservation Scientific Services Section

jw/jdg/jm
ENV 2-11-2/3
Seminole Electric 2011_3356_072211

cc: Trudy S. Novak
Planning and Regulatory Affairs
Seminole Electric Cooperative, Inc.
P.O. Box 272000
Tampa, FL 33688-2000

State Agencies

Florida Department of Transportation

Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

July 25, 2011

Phillip Ellis
Division of Regulatory Analysis
Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Dear Mr. Ellis:

The Siting Coordination Office has reviewed the ten-year site plans and find these are suitable as planning documents. If you have any questions please feel free to call me at (850)414-4572.

Sincerely,

Connie Mitchell
Staff Director
Siting Coordination Office

Regional Planning Councils

Central Florida RPC

CFRPC SERVING THE COUNTIES OF • DESOTO • HARDEE • HIGHLANDS • OKEECHOBEE • POLK

June 27, 2011

Phillip Ellis
State of Florida Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Blvd
Tallahassee, FL 32399

Dear Mr. Ellis,

The CFRPC received ten year power plant plans from Lakeland Eclectic, Orlando Utilities Commission, Seminole Electric Cooperative, Progress Energy, and Tampa Electric (TECO). No report was received from Florida Power and Light (FPL). However, the CFRPC reviewed the ten year power plant plans for FPL on the Public Service Commission's website.

The proposed expansions/potential sitings as indentified in the ten year power plant plans as submitted are consistent with the Central Florida Regional Planning Council Strategic Regional Policy Plan (SRPP). Thank you for the opportunity to review these ten year power plant plans.

Sincerely,

Marisa M. Barmby, AICP
Senior Planner

CENTRAL FLORIDA REGIONAL PLANNING COUNCIL
555 EAST CHURCH STREET, BARTOW, FL 33830-3931; P.O. BOX 2089 BARTOW, FL 33831-2089
(863) 534-7130 • FAX (863) 534-7138 • TOLL FREE (800) 297-8041 • WEBSITE WWW.CFRPC.ORG

Regional Planning Councils

East Central Florida RPC

EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

309 Cranes Roost Blvd. Suite 2000 · Altamonte Springs, Fl 32701
Phone (407).262.7772 · Fax (407).262.7788 · www.ecfrpc.org

Philip Laurien, AICP
Executive Director

MEMORANDUM

To: Phillip Ellis, Division of Regulatory Analysis, Florida Public Service Commission

From: George Kinney, AICP, Planning Manager
Tara M. McCue, AICP

Date: June 30, 2011

Subject: 2011 Ten-Year Site Plans Review
- Florida Power and Light
- Florida Municipal Power Agency
- Orlando Utilities Commission
- Progress Energy

The East Central Florida Regional Planning Council staff has completed a review of the 2011 Ten-Year Site Plans for the agencies listed above. Staff comments to each utility are italicized below.

Florida Power and Light (FPL)

FPL has identified 13 potential sites for future energy additions. Some are located on existing generation sites, including the Space Coast Solar Expansion project in Brevard County, which already contains of a 10 MW PV facility and has the potential to expand by an additional 10 MW. Modernization of existing power plants is also being conducted and studied at various sites. The 10 Year Site Plan did not include any proposed projects or sites which conflict with the ECFRPC Regional Strategic Policy Plan. The Council encourages Florida Power and Light to continue its efforts towards the incorporation of renewable energy projects. Staff finds the document to be suitable for planning purposes.

Florida Municipal Power Agency

The 10 Year Site Plan did not identify any proposed projects or sites which conflict with the ECFRPC Regional Strategic Policy Plan. FMPA has demonstrated multiple partnerships utilizing alternative energy supplies such as solar, biomass, and plasma arc; this is consistent with the ECFRPC 2060 plan. Staff finds the document to be suitable for planning purposes.

Orlando Utilities Commission

The 10 Year Site Plan did not include any proposed projects or sites which conflict with the ECFRPC Regional Strategic Policy Plan. OUC is projected to have adequate generating capacity through 2016 and may add a simple cycle combustion turbine at the existing Stanton Energy Center to meet the capacity of the ten year site plan. Staff finds the document to be suitable for planning purposes.

Progress Energy Florida (PEF)

The 10 Year Site Plan did not include any proposed projects or sites which conflict with the ECFRPC Regional Strategic Policy Plan. The utilization of photovoltaic panels on schools, especially those used as shelters, is demonstrative of cross-sector planning strategies aimed towards community safety. PEF has noted the proposed transmission lines through 2020, its pursuit of nuclear energy, and proposed gas turbine facility and combustion turbine. Continued study and partnerships in various renewable energy resources is consistent with the ECFRPC 2060 plan. Staff finds the document to be suitable for planning purposes.

Council staff will provide further comments on environmental impacts when new units, projects or transmission lines are proposed and related environmental and wildlife studies are provided.

If you require any further information or comments, please contact Tara McCue, AICP at tara@ecfrpc.org or by phone at (407) 262-7772.

Regional Planning Councils

North Central Florida RPC

North Central Florida Regional Planning Council

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June 15, 2011

Mr. Phillip Ellis
Division of Regulatory Analysis
Florida Public Service Commission
Capitol Circle Office Center
2540 Shumard Oak Blvd
Tallahassee, FL 32399-0850

Regional Review of Seminole Electric Cooperative, Inc. Ten Year Site Plan, 2011 - 2020

Dear Mr. Ellis:

Pursuant to Section 186.801, Florida Statutes, Council staff has reviewed the proposed Ten-Year Site Plan and provides the following comments.

The above-referenced ten-year site plan proposes to construct eight natural gas-powered electrical generation stations by 2020 to be located within Gilchrist County. The combined summer electrical generating capacity of the stations will be 1,182 megawatts, while the combined winter electrical generating capacity of the stations will be 1,354 megawatts. The ten-year site plan notes that 900 megawatts of the winter generating capacity will be cooled by air, and that 454 megawatts of the winter generating capacity will be cooled by water using wet cooling towers and forced air draft fans.

The subject property of the Gilchrist County site is located adjacent to Waccasassa Flats, a Natural Resource of Regional Significance as identified and mapped in the North Central Florida Strategic Regional Policy Plan. Page IV-49 of the North Central Florida Strategic Regional Policy Plan notes the following regarding Waccasassa Flats.

> Occupying approximately 61,653 acres, Waccasassa Flats runs down the center of Gilchrist County. The flats are part of a larger wetland system which runs into Levy County and the Withlacoochee Regional Planning District. During the rainy season, waters in the aquifer build up sufficient pressure to spill out of the many sinkholes and ponds scattered throughout the flats to inundate the area.
>
> The area is predominantly comprised of commercial pine plantation. Pine stands are interspersed among numerous cypress ponds, depression marshes, hydric hammock, and other wetland communities. Several lakes (the largest of which is 150 acres), small areas of upland hardwood forest, sandhill, and other minor natural communities contribute to the diversity of the flats.

Applicable regional plan goals and policies include the following:

> REGIONAL GOAL 4.6. Maintain the quantity and quality of the region's surface water systems in recognition of their importance to the continued growth and development of the region.

Policy 4.6.5. Use non-structural water management controls as the preferred water management approach for rivers, lakes, springs, and fresh water wetlands identified as natural resources of regional significance.

Policy 4.6.6. Support the coordination of land use and water resources planning for surface water resources designated as natural resources of regional significance among the Council, local governments, and the water management districts through regional review responsibilities, participation in committees and study groups, and ongoing communication.

Policy 4.6.12. Ensure that local government comprehensive plans, DRIs, and requests for federal and state funds for development activities reviewed by the Council include adequate provisions for stormwater management, including retrofit programs for known surface water runoff problem areas, and aquifer recharge protection in order to protect the quality and quantity of water contained in the Floridan Aquifer and surface water systems identified as natural resources of regional significance.

Policy 4.6.13. Work with local governments, state and federal agencies, and the local water management districts in the review of local government comprehensive plans and developments of regional impact as they affect wetlands identified as natural resources of regional significance to ensure that any potential adverse impacts created by the proposed activities on wetlands are minimized to the greatest extent possible.

The proposed electrical power generation site to be located in Gilchrist County will be consistent with the regional plan provided the water consumption of the electrical generating stations does not result in significant and adverse impacts to the wetland functions of Wacassassa Flats. However, the ten-year site plan does not indicate the water source or the amount of water to be used to cool the electrical generating stations. Additionally, the ten-year site plan does not provide an analysis of environmental impacts to Wacassassa Flats of the withdrawal of groundwater used to cool the electrical generating units.

Therefore, it is recommended that the ten-year site plan include information on the water consumption of the electrical generating stations as well as an analysis of environmental impacts to Wacassassa Flats as a result of their water consumption. Finally, it is recommended that an alternative environmental impact analysis be provided whereby 100 percent of the electrical generation capacity of the site is cooled using air.

If you have any questions concerning this matter, please do not hesitate to contact Steven Dopp, Senior Planner of the Planning Council's Regional and Local Government Programs staff, at (352) 955-2200, extension 109.

Sincerely,

Scott R. Koons, AICP
Executive Director

v:\chouse\respnses\2010-11_93.docx

North Central Florida Regional Planning Council

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REGIONAL CLEARINGHOUSE
INTERGOVERNMENTAL COORDINATION AND RESPONSE

Date: 6-15-11

PROJECT DESCRIPTION

#93 - Florida Public Service Commission - Seminole Electric Cooperative, Inc. Ten Year Site Plan, 2011 - 2020

TO: Lauren Milligan, Florida State Clearinghouse

xc: Phillip Ellis
Division of Regulatory Analysis
Florida Public Service Commission
Capitol Circle Office Center
2540 Shumard Oak Blvd
Tallahassee, FL 32399-0850

State Planning Administrator
Office of State Planning, Division of Community Planning
Florida Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

_X_ COMMENTS ATTACHED

___ NO COMMENTS REGARDING THIS PROJECT

IF YOU HAVE ANY QUESTIONS REGARDING THESE COMMENTS, PLEASE CONTACT STEVEN DOPP, SENIOR PLANNER, AT THE NORTH CENTRAL FLORIDA REGIONAL PLANNING COUNCIL AT (352) 955-2200 OR SUNCOM 625-2200, EXT 109

Regional Planning Councils

Northeast Florida RPC

Northeast Florida Regional Council

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May 6, 2011

Ms. Jeanette Sickel
Florida Public Service Commission
Division of Economic Regulation
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Dear Ms. Sickel:

Please find attached the Northeast Florida Regional Council's review for JEA's ten-year site plan.

JEA Ten-year Site Plan: The ten-year site plan, as required by Section 186.801 of the Florida Statutes (F.S.), was reviewed by the Northeast Florida Regional Council staff.

> ***Action taken:*** Staff's review was approved by the Council and authorized for transmittal to the Florida Public Service Commission.

If you have any further requests or questions, please contact Ms. Ameera Sayeed, Senior Regional Planner, (904) 279-0885, ext. 151 or asayeed@nefrc.org.

Sincerely,

Edward Lehman
Director of Planning & Development

Attachment

EL/ag

6850 Belfort Oaks Place • Jacksonville, FL 32216 • (904) 279-0880 • Fax (904) 279-0881 • Suncom 874-0880 • Suncom Fax 874-0881
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MEMORANDUM

DATE: April 25, 2011

TO: Northeast Florida Regional Council

THRU: Planning and Growth Management Policy Committee

FROM: Ameera F. Sayeed, Senior Regional Planner

RE: Review of JEA Ten-Year Power Plant Site Plan 2011-2020

INTRODUCTION

Each year every electric utility in the State of Florida produces a ten-year site plan that includes an estimate of future electric power generating needs. The purpose of the ten-year site plan is to disclose the general location of proposed power plant sites and facilitate coordinated planning efforts. Pursuant to Section 186, Florida Statues, Council staff reviewed the most recent ten-year site plan prepared by the Jacksonville Electric Authority (JEA). The purpose of this report is to summarize JEA's plans for future power generation and provide comments for transmittal to the Florida Public Service Commission (Commission).

STATUTORY AUTHORITY

Section 186.801, Florida Statutes, requires that all major generating electric utilities in Florida submit a *Ten-Year Site Plan* to the Commission for review. Each *Ten-Year Site Plan* contains projections of the utility's electric power needs for the next ten years and the general location of proposed power plant sites and major transmission facilities. In accordance with the statute, the Commission performs a preliminary study of each *Ten-Year Site Plan* and must determine whether it is "suitable" or "unsuitable." In conducting its review, the Commission considers the views of appropriate local and state agencies. The Northeast Florida Regional Council reviews electric utility Ten-Year Site Plans within the region and submits comments to the Commission for review. The Commission forwards the *Ten-Year Site Plan* review, upon completion, to the Florida Department of Environmental Protection (DEP) for use in subsequent power plant siting proceedings. To fulfill the requirements of Section 186.801, Florida Statutes, the Commission has adopted Rules 25-22.070 through 25-22.072, Florida Administrative Code. Electric utilities must file the *Ten-Year Site Plan* by April 1st.

PURPOSE

The intent of the *Ten-Year Site Plans* is to give state, regional, and local agencies advance notice of proposed power plants and transmission facilities. However, the *Ten-Year Site Plans* are not a binding plan of action on electric utilities. As such, the Commission's classification of a *Ten-Year Site Plan* as suitable or unsuitable has no binding effect on the utility. Such a classification does not constitute a finding or determination in docketed matters before the Commission. The Commission may address any concerns raised by a utility's *Ten-Year Site Plan* at a public hearing. Because the *Ten-Year Site Plans* are planning documents containing tentative data, they may not contain sufficient information to allow regional planning councils, water management districts, and other review agencies to evaluate site-specific issues within their jurisdictions. Each utility is responsible for providing detailed data, based on in-depth environmental assessments, during Power Plant Siting Act or Transmission Line Siting Act certification proceedings.

Summary of the Plan

The evaluation has revealed that JEA has included in this ten-year plan the necessary analysis. The existing JEA electric supply resources, forecasts of customer energy requirements and peak demands, forecasts of fuel process and availability, and an analysis of alternative for resources that would meet JEA's future capacity and energy needs were reported in the ten-year plan. JEA forecasts accounted for the system peak demand growth and energy consumption resource plan, in addition to cost considerations, environmental and land use considerations were amply factored into the ten-year plan. JEA covers approximately 900 square miles and services 417,000 customers. JEA had provided population estimates in previous ten-year site plans and it appears that the current plan no longer includes the population forecast and accompanying discussion.

JEA consists of three separate entities: The JEA Electric system, the St. Johns River Power Park and the Robert W. Scherer system. The JEA Electric System consists of generating facilities located on three plant sites within the City; the J. Dillon Kennedy Generating Station, the Northside Generating Station and the Brandy Branch Generating Station. These are two dual fired plants, meaning petroleum and coke or coal burning. The St. Johns River Power Park is jointly owned by JEA (80 percent and FP&L (20 percent). These are coal fired units. Although JEA is the majority owner of SJRPP, both owners are entitled to 50 percent of the output of SJRPP. The Robert Scherer Unit 4 is a coal fired generating unit with a net output of 846 MW located in Monroe County, Georgia. JEA has a 23.6 percent ownership interest in Unit 4 and proportionate ownership interest in associated common facilities and coal stock pile.

JEA also pursues purchasing power from Southern Company, which is also coal powered and will provide capacity and energy per contract through May 31, 2010. Constellation Energy Commodities Group has been added from the previous year site plan. Constellation and JEA entered into an agreement in October 2006. The Energy Authority (TEA) is generally able to acquire capacity when any of JEA's members require additional resources. Co-generation facilities reduce the demand from JEA's facilities and JEA has customers having Qualifying

Facilities located with the JEA service area/territory. Four of these "co-generators" are Anheuser-Busch, Baptist Hospital, Ring Power Landfill and St. Vincent's Hospital.

JEA continues to establish a Clean Power Capacity goal of 7.5 percent clean power capacity by 2015. To support these goals, the JEA has solar photovoltaic panels on high schools and other community buildings. JEA also has the Solar Incentive Program to promote solar energy. Another measure taken by JEA is the Residential Net Metering Policy to encourage the use of customer sited solar photovoltaic systems. JEA also has programs that offer indoor and outdoor lighting services to help in designing efficient light systems and retrofits.

Nuclear Generation

In March 2008, JEA approved the policy of pursuing nuclear energy partnerships with the goal of providing 10 percent of JEA's power from nuclear sources. In June 2008, JEA entered in to a purchase power agreement with the Municipal Electric Authority of Georgia (MEAG) for a portion of MEAG's entitlement to the Vogtle Units 3 and 4, which are proposed new nuclear units to be constructed at the existing Plant Vogtle located in Burke County, Georgia. JEA is entitled to net firm capacity of 200 MW from the proposed units. JEA assumes they will have available capacity beginning in the year 2016 from Unit 3 and additional capacity from Unit 4 beginning in the year 2017.

Clean Power and Renewable Energy

JEA has pursued several clean power initiatives and is in the process of evaluating potential renewable energy resources. JEA has worked with the Sierra Club of Northeast Florida, the American Lung Association and local environmental groups to establish a process to maintain an action plan entitled "Clean Power Action Plan". This Plan includes an advisory Panel which is comprised of community representatives. Also, JEA has included in their review and planning installation of solar photovoltaics, solar thermal, landfill and wastewater treatment biogas capacity and wind capacity. Progress has extended to installation of clean power systems, unit efficiency improvements, commitment in to and development of clean power technologies.

Solar

In 2009 JEA purchased a power agreement with Jacksonville Solar, LLC to provide energy from a 15.0 MW DC rated solar farm, the facility is located in western Duval County ad will consist of 200,000 photovoltaic panels on 100 acres and will generate approximately 22,340 MWh of electricity per year. The Jacksonville Solar Plant has begun commercial operation at full capacity in September of 2010, valid statistics at this point are not available. JEA has installed 35 solar PV systems on public schools in Dual County, as well as many of JEA's facilities such as the Airport. JEA has also institutes a residential net metering program to encourage the use of customer-sited solar PV systems and has since be revised to include customer-owned renewable generation systems up to and equal to 100kW.

Landfill

JEA owns three internal combustion engine generators that are fueled by the methane gas produced by the landfill. JEA also receives landfill gas from the North landfill, which is fed to the Northside Generating Station and is used to generate power at Northside Unit 3.

Wind

JEA purchases 10MW of wind capacity from NPPD's (Nebraska Public Power District) and in turn the NPPD buys back the energy at specified on/off peak charges. JEA receives environmental credits associated with green projects. JEA entered in to a 20 year agreement with Nebraska Public Power District to continue to participate in the wind generation project locate in Ainsworth, Nebraska.

Biomass

JEA has been in research efforts continues to conduct and evaluate the feasibility of this energy source. A completed study indicating that the biomass generation is simply not a cost-effective option at this time.
Other renewable efforts include offshore wind, tidal and energy crops, all requiring more research and development before implementation.

Greenland Energy Center

The GEC is a new site and JEA has proceeded with the installation of two combustion units. The primary fuels for GEC is natural gas. Natural Gas is delivered to GEC through the SeaCoast Pipeline and the GEC Lateral. The scheduled commercial operation date for these units is June 2011. The GEC Units 1 and 2 are also efficient 7FA simple cycle combustion turbines.

Staff Evaluation

In a previous report submitted the Council staff had noted that JEA did not include sufficient forecast data. However, this ten-year report addresses the forecast and needs adequately. JEA forecasts the Net Energy Load to increase at an average of 1.17 percent per year during this ten year period. JEA anticipates seasonal purchases maybe required in operating horizon in years 2013-2016.

Council staff supports JEA and the State of Florida's efforts to continue to develop new programs to: 1) reduce the reliance on coal and oil as energy sources; 2) increase conservation activities to offset the need to construct new power plants; and 3) plan to develop an environmentally sound power supply strategy that may provide reliable electric service at the lowest practical cost.

Recommendation

Staff recommends that the Committee and Council approve this report and authorize its transmittal to the Florida Public Service Commission.

Regional Planning Councils

South Florida RPC

South Florida Regional Planning Council

May 18, 2011

Mr. Phillip Ellis
Division of Regulatory Analysis
State of Florida Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

RE: SFRPC #11-0410, Review of Florida Power and Light and Florida's Electric Utilities Ten-Year Power Plant Site Plans for the State of Florida Public Service Commission.

Dear Mr. Ellis:

We have reviewed the above-referenced Ten-Year Power Plant Site Plans for consistency with the Council's regional policy document, the *Strategic Regional Policy Plan (SRPP)* and have the following comments:

- The *SRPP* includes the development and implementation of renewable, clean fuels as a regional priority. Given the increasing cost of petroleum-based energy supplies, the security risks associated with South Florida's dependence on the importation of energy sources, and the high degree of scientific certainty that the burning of fossil fuels is one of the most significant anthropogenic contributors to global warming, both Florida Power and Light and Florida Municipal Power Agency should increasingly seek to diversify their fuel sources with a greater emphasis on renewable clean fuels and clean fuel technology. Methane capture from landfills and solar, wind and ocean current energies are all examples of alternative clean energy sources that could be used to meet the future energy needs of South Florida and the State.

- In accordance with the *SRPP*, careful analysis of storm surge and flooding of critical facilities is vital when determining potential site facilities. All measures should be taken that protect natural resources and direct future development away from storm surge areas.

- The proposed and future plans should strive to incorporate to the greatest extent possible energy planning measures consistent with the following Goals and Objectives of the *Strategic Regional Policy Plan for South Florida.*

GOAL 9	**Develop clean, sustainable, and energy-efficient power generation and transportation systems.**
Policy 9.1	Develop and implement sustainable energy conservation strategies.
Policy 9.2	Encourage the development of renewable, clean fuels and energy-efficient enterprises to serve our communities and national markets.
Policy 9.4	Improve regional air quality through a reduction of transportation and electrical power generation related impacts.

3440 Hollywood Boulevard, Suite 140, Hollywood, Florida 33021
Broward (954) 985-4416, State (800) 985-4416
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Policy 9.7	Assess the impacts of global climate change and sea-level rise on South Florida's resources and land uses.
Policy 9.8	Establish greenhouse gas emission reduction goals and implement renewable energy measures to minimize the risks posed by sea-level rise and other effects of global climate change.
Goal 19	**Direct future development away from areas most vulnerable to storm surges.**
Policy 19.4	Limit the development of non-recreational public facilities in the storm surge areas except when necessary for the public health, safety, and welfare of existing residents.
Policy 19.7	Require any development or redevelopment that occurs in a Coastal High Hazard Area to include features that mitigate hazard impacts and promote public safety and welfare.
Goal 20	**Achieve long-term efficient and sustainable development patterns that protect natural resources and connect diverse housing, transportation, education, and employment opportunities.**
Policy 20.2	Guide new development and redevelopment within the Region to areas which are most intrinsically suited for development, including areas: a. which are least exposed to coastal storm surges; b. where negative impacts on the natural environment will be minimal; and c. where public facilities and services already exist, are programmed or, on an aggregate basis, can be provided most economically.

Thank you for the opportunity to comment. Please do not hesitate to call if you have any questions or comments: (954) 985-4416.

Sincerely,

Eric K. Swanson
Regional Planner

EKS/kal

Regional Planning Councils

Treasure Coast RPC

TREASURE COAST REGIONAL PLANNING COUNCIL

INDIAN RIVER – ST. LUCIE – MARTIN – PALM BEACH

July 7, 2011

Mr. Phillip Ellis
Division of Regulatory Analysis
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Subject: 2011 Ten Year Power Plant Site Plans

Dear Mr. Ellis:

Treasure Coast Regional Planning Council has reviewed the ten year power plant site plan prepared by Florida Power and Light Company. Council approved the comments in the attached report at a board meeting on June 17, 2011. The report concludes that the FPL Ten Year Power Plant Site Plan, 2011-2020 is inconsistent with Strategic Regional Policy Plan Goal 9.1, decreased vulnerability of the region to fuel price increases and supply interruptions; and Strategy 9.1.1, reduce the Region's reliance on fossil fuels. Council urges FPL and the State of Florida to continue developing new programs to: 1) reduce the reliance on fossil fuels as future energy sources; 2) increase conservation activities to offset the need to construct new power plants; and 3) increase the reliance on renewable energy sources to produce electricity.

Please contact me if you have any questions.

Sincerely,

Peter G. Merritt, Ph.D.
Regional Ecologist

Attachment

TREASURE COAST REGIONAL PLANNING COUNCIL

Report on the

Florida Power & Light Company Ten Year Power Plant Site Plan, 2011-2020

June 17, 2011

Introduction

Each year every electric utility in the State of Florida produces a ten year site plan that includes an estimate of future electric power generating needs, a projection of how those needs will be met, and disclosure of information pertaining to the utility's preferred and potential power plant sites. The Florida Public Service Commission (FPSC) has requested that Council review the most recent ten year site plan prepared by Florida Power and Light Company (FPL). The purpose of this report is to summarize FPL's plans for future power generation and provide comments for transmittal to the FPSC.

Summary of the Plan

The plan indicates that after energy conservation initiatives, load management, and energy efficiency contributions are factored in, FPL will still require additional capacity from conventional power plants to meet future electrical demand. FPL is proposing to add 1,191 megawatts (MW) of summer capacity to its system from 2011 to 2020 (Exhibit 1). FPL plans to obtain additional electricity through: 1) power purchases from qualifying facilities, utilities and other entities; 2) upgrades to existing facilities; 3) returning inactive reserve units online; and 4) developing new generating facilities. Major additions of new generating capacity are as follows:

- 2011 – add West County Energy Center Unit 3 (1,219 MW) in Palm Beach County;
- 2013 – place in service the Cape Canaveral Next Generation Clean Energy Center (1,210 MW) in Brevard County;
- 2014 – place in service the Riviera Beach Energy Center (1,212 MW) in the City of Riviera Beach;
- 2016 – place in service a new Greenfield Combined Cycle power plant (1,191 MW) at an unidentified location; and
- 2020 – place in service a new Greenfield Combined Cycle power plant (1,191 MW) at an unidentified location.

Based on the projection of future resource needs, FPL has identified the following five preferred sites for future power generating facilities:

1. the existing West County Energy Center site in Palm Beach County;
2. the existing St. Lucie Plant site in St. Lucie County;
3. the existing Turkey Point Plant site in Miami-Dade County;

4. the existing Cape Canaveral Plant site in Brevard County; and
5. the existing Riviera Plant site in Palm Beach County.

Also, FPL has identified 13 potential sites for new or expanded power generating facilities. The potential sites include: 1) the Babcock Ranch site in Charlotte County; 2) the DeSoto Solar Expansion site in DeSoto County; 3) the Florida Heartland site in Glades County; 4) an unidentified location in Hendry County for a photovoltaic (PV) facility; 5) the existing Manatee Plant site in Manatee County; 6) an unidentified location in Martin County for a PV facility; 7) an unidentified location in northeast Okeechobee County; 8) the Palatka site in Putnam County; 9) the Port Everglades Plant site in Broward County; 10) an unidentified location in Putnam County for a PV facility; 11) an unidentified location in southwest Indian River County for a PV facility or fossil generation; 12) the Space Coast Solar Expansion site in Brevard County; and 13) the West Broward site at the Andytown Substation property in Broward County. The identification of potential sites does not represent a commitment by FPL to construct new power generating facilities at these sites.

The plan describes the following seven factors considered to be of primary importance in influencing FPL's resource planning efforts:

1. Growing difficulty in scheduling fossil-fueled power plant maintenance;
2. High projected costs of returning generating units on inactive reserve status to active service;
3. Securing additional natural gas in a manner that enhances the reliability of the natural gas supply system;
4. Maintaining/enhancing fuel diversity in the FPL system;
5. Maintaining a balance between load and generating capacity in Southeastern Florida, particularly in Miami-Dade and Broward counties;
6. Growing dependence upon demand side management resources to maintain FPL system reliability; and,
7. Possible establishment of "Clean Energy Standards" or another mechanism to promote large scale utilization of renewable energy.

Evaluation

One of the main purposes of preparing the ten year site plan is to disclose the general location of proposed power plant sites. The FPL ten year site plan identified three preferred sites and two potential sites for future power generating facilities in the Treasure Coast Region (Exhibit 2). The first preferred site is the existing West County Energy Center in Palm Beach County. This site was selected for the addition of another natural gas-fired generating unit (Unit 3) with ultra-low sulfur light fuel oil as a back up fuel. The new unit will be similar to the existing Units 1 and 2, which are 1,219 MW of natural gas-fired units that went into commercial operation in 2009. Council issued a report and recommendations on Unit 3 in 2008. The FPSC and Florida Department of Environmental Protection (FDEP) have approved Unit 3, which is under construction and expected to go into commercial operation in 2011.

The second preferred site is the St. Lucie Plant, which is located on Hutchinson Island in St. Lucie County. This site has two nuclear-powered generating units, St. Lucie Units 1 and 2, which have been in operation since 1976 and 1983, respectively. The St. Lucie site has been selected as a preferred site for an "uprate" project to increase the capacity of the two existing nuclear generating units. FPL is modifying the two 840 MW nuclear generating units to increase their capacity by about 122 MW for Unit 1 and 110 MW for Unit 2. Council issued a report supporting this project in 2008. This uprate project has been approved by the FPSC and FDEP. FPL has also been pursuing the addition of six wind turbines at the St. Lucie Plant site for a number of years. However, FPL has been unable to obtain the local land use approvals necessary to proceed with the process.

The third preferred site is the Riviera Plant site located in the City of Riviera Beach. The previous generating capacity at this site was made up of two 300 MW oil-fired units, which have been taken out of service and will be dismantled in 2011. FPL is in the process of modernizing the existing Riviera Plant, which will be renamed the Riviera Beach Next Generation Clean Energy Center. FPL is replacing the existing units with a high-efficiency combined cycle natural gas-fired unit producing 1,212 MW of electricity. Council issued a report supporting this project in 2009. The new facility has been approved by the FPSC and FDEP, and is expected to start commercial operation in 2014.

The first potential site identified in the Treasure Coast Region is Martin County. The plan indicates FPL is evaluating potential sites in Martin County for a future PV facility. No specific locations have been selected at this time.

The second potential site identified in the Treasure Coast Region is Southwest Indian River County. The plan indicates FPL is evaluating potential sites in Southwest Indian River County for a future PV facility or fossil generation. No specific locations have been selected at this time. Last year, Council received communications from Indian River County and the Town of Indian River Shores that they were exploring the possibility of changing their electric utility provider from the City of Vero Beach to FPL. The City of Vero Beach electric utility provides power to a large number of residents living in unincorporated Indian River County and in the Town of Indian River Shores. The 2011 Site Plan states: "FPL is currently evaluating the possibility of serving the Vero Beach electrical load at the time the 2011 Site Plan is being prepared. Because this possibility is still being evaluated, the load forecast presented in this Site Plan does not include this potential load."

The ten year plan indicates that fossil fuels will be the primary source of energy used to generate electricity by FPL during the next 10 years (Exhibit 3). The plan indicates fossil fuels will account for 73.6 percent (6.1 percent from coal, 1.6 percent from oil, and 65.9 percent from natural gas) of FPL's electric generation in 2011. The plan predicts fossil fuels will account for 74.0 percent (5.2 percent from coal, 0.6 percent from oil, and 68.2 percent from natural gas) of FPL's electric generation in 2020. During the same period, nuclear sources are predicted to change from 18.7 percent in 2011 to 20.3 percent in

2020. Solar sources are predicted to remain steady at 0.2 percent in 2011, and 0.2 percent in 2020.

Regarding solar, FPL has completed construction of three solar facilities: 1) a 75 MW steam generation solar thermal facility in Martin County (the Martin Next Generation Solar Energy Center); 2) a 25 MW PV electric generation facility in DeSoto County (the DeSoto Next Generation Solar Energy Center); and 3) a 10 MW PV electric generation facility in Brevard County at NASA's Kennedy Space Center (the Space Coast Next Generation Solar Energy Center). These three projects were completed in response to the 2008 Energy Bill, which was enacted to enable the development of clean, zero greenhouse gas emitting renewable generation in the State of Florida. Specifically, the bill authorized cost recovery for the first 110 MW of eligible renewable projects that had the proper land, zoning, and transmission rights in place. The 2011 Site Plan indicates that FPL is currently in the process of identifying other potential solar sites in the state in the event that a future Renewable Portfolio Standard, Clean Energy Standard, or other legislation is enacted that enables FPL to construct and recover costs for additional solar generation. Council continues to support FPLs existing solar projects and encourages FPL to develop additional projects based on renewable resources.

Other Issues

As part of the review process, Council solicited comments from affected and neighboring jurisdictions (Exhibit 4). Council received informal comments from Palm Beach County staff providing advice to FPL concerning the potential for encountering archeological resources during ground disturbing activities at the Riviera Beach Next Generation Clean Energy Center. Also, Council received correspondence from the Town of Wellington encouraging FPL to consider using biofuels as an alternative source of energy, and planning green solutions that not only produce energy, but also help to solve problems associated with bio-solids that have energy potential.

Conclusion

The elements of the ten year site plan that do not predict a reduction in reliance on fossil fuels and do not predict an increase in reliance on renewable energy are inconsistent with Strategic Regional Policy Plan Goal 9.1, decreased vulnerability of the region to fuel price increases and supply interruptions; and Strategy 9.1.1, reduce the Region's reliance on fossil fuels. Over the last ten years, Council's findings of inconsistency with the FPL ten-year plans have remained relatively unchanged, because FPL has made little progress toward addressing Council's concerns. One of the main reasons for this is because the State of Florida does not have a Renewable Portfolio Standard or other policies designed to encourage electric utilities to increase fuel diversity by adding a greater proportion of energy from renewable sources, such as solar and wind energy. Council encourages the Florida Legislature to adopt a Renewable Portfolio Standard during the next legislative session in order to provide a mechanism to expand the use of renewable energy in Florida.

In addition to the current efforts by FPL to expand solar and wind derived energy in the region, Council recommends that FPL consider two new strategies to expand reliance on renewable sources. First, FPL should develop a program to install, own, and operate PV units on the rooftops of private and public buildings. Such a program could be modeled after the Southern California Edison plans to install 250 MW of solar energy on more than 100 buildings in the greater Los Angeles area. The shift to rooftop PV systems distributed throughout the area of demand could reduce the reliance on large transmission lines and reduce costs associated with owning property; purchasing fuel; and permitting, constructing, and maintaining a power plant. Another advantage of this strategy is that PV systems do not require water for cooling. The incentive for owners of buildings to participate in this strategy is they could be offered a reduced rate for purchasing electricity.

Second, FPL should examine the feasibility of developing an offshore wind farm for generating electricity. An offshore wind farm could take advantage of greater wind speeds available over the ocean, compared with onshore locations. In addition, the development of offshore transmission lines and infrastructure could be beneficial for the future development of ocean current technology, which is currently under investigation by the Florida Atlantic University Center for Ocean Energy Technology.

Council considers the FPL Ten Year Power Plant Site Plan for 2011-2020 to be inconsistent with Regional Goal 9.1 and Strategy 9.1.1 of the SRPP. Council urges FPL and the State of Florida to continue developing new programs to: 1) reduce the reliance on fossil fuels as future energy sources; 2) increase conservation activities to offset the need to construct new power plants; and 3) increase the reliance on renewable energy sources to produce electricity. The complete costs of burning fossil fuels, such as the costs to prevent environmental pollution and costs to the health of the citizens need to be considered in evaluating these systems. State legislators should adopt a Renewable Portfolio Standard and amend the regulatory framework to provide financial incentives for the power providers and the customers to increase conservation measures and to rely to a greater extent on renewable energy sources. Also, the State should reconsider the currently used test for energy efficiency and choose a test that will maximize the potential for energy efficiency and renewable energy resources. The phasing in of PV and other locally available energy sources will help Florida to achieve a sustainable future.

Attachments

EXHIBIT 1

Table III.B.1: Projected Capacity Changes for FPL

Projected Capacity Changes for FPL [1]			
Year	Projected Capacity Changes	Net Capacity Changes (MW) Winter[2]	Summer[4]
2011	Inactive Reserve of Existing Units - offline [8]	(775)	(1,922)
	Riviera Plant - removed for modernization	---	(565)
	Scherer Plant - Upgrade	---	26
	St. Lucie Unit 2 Uprate - Outage [7]	---	17
	St. Lucie Unit 2 - Interim Increase [7]	(726)	---
	West County Unit 3 [6]	---	1,219
2012	Changes to Existing Purchases [5]	---	(100)
	St. Lucie Unit 1 Uprates - Completed	---	122
	Turkey Point Unit 3 Uprates - Completed	---	109
	Inactive Reserve of Existing Units - offline [8]	(394)	---
	Inactive Reserve Units (PE Units 3 & 4) - active status	765	761
	Manatee 2 ESP - Outage [8]	(822)	---
	Riviera Plant - removed for modernization	(571)	---
	Scherer Plant - upgrade	26	---
	St. Lucie Unit 1 Uprate - Outage [7]	(853)	---
	St. Lucie Unit 2 - Interim Increase [7]	17	---
	St. Lucie Unit 2 Uprate - Outage [7]	---	(731)
	Turkey Point Unit 3 Uprate - Outage [7]	(717)	---
	West County Unit 3 [6]	1,335	---
2013	Cape Canaveral Next Generation Clean Energy Center [6]	---	1,210
	St. Lucie Unit 1 Uprates - Completed	122	---
	St. Lucie Unit 2 Uprates - Completed	93	93
	Turkey Point Unit 3 Uprates - Completed	109	---
	Turkey Point Unit 4 Uprates - Completed	---	109
	Inactive Reserve Unit (PE Units 3 & 4) - inactive status [9]	(765)	(761)
	Manatee Unit 1 ESP - Outage [8]	(822)	---
	Martin Unit 1 ESP - Outage [8]	--	(826)
2014	Cape Canaveral Next Generation Clean Energy Center [6]	1,355	---
	Turkey Point Unit 4 Uprates - Completed	109	---
	Martin Unit 1 ESP - Outage [8]	(832)	---
	Martin Unit 2 ESP - Outage [8]	---	(826)
	Riviera Beach Next Generation Clean Energy Center [6]	---	1,212
2015	Change to Existing Qualifying Facilities [5]	---	90
	Riviera Beach Next Generation Clean Energy Center [6]	1,344	---
2016	Changes to Existing Purchases [5]	(841)	(1,306)
	Change to Existing Qualifying Facilities [5]	---	---
	Greenfield 3x1 Combined Cycle [6]	---	1,191
2017	Changes to Existing Purchases [5]	(383)	---
	Greenfield 3x1 Combined Cycle [6]	1,351	---
2018	---	---	---
2019	---	---	---
2020	Greenfield 3x1 Combined Cycle [6]	---	1,191

(1) Additional information about these resulting reserve margins and capacity changes are found on Schedules 7 & 8 respectively.
(2) The Summer and Winter reserve margins reflect an additional 350 MW in Summer and 550 MW in Winter of unspecified average capacity scheduled to be out during those peak periods. See Chapter III for more details.
(3) Winter values are forecasted values for January of the year shown.
(4) Summer values are forecasted values for August of the year shown.
(5) These are firm capacity and energy contracts with QF, utilities, and other entities. See Table I.B.1 and Table I.B.2 for more details.
(6) All new unit additions are scheduled to be in-service in June of the year shown. All additions assumed to start in June are included in the Summer reserve margin calculation starting in that year and in the Winter reserve margin calculation starting with the next year.
(7) Outages for uprate work.
(8) Outages for ESP work. (Assumes EPA final Toxics Rule requires ESPs, thus necessitating outages.)
(9) A number of existing FPL power plants have been removed from service and placed on Inactive Reserve status. See Chapter III for a discussion of the units on Inactive Reserves.

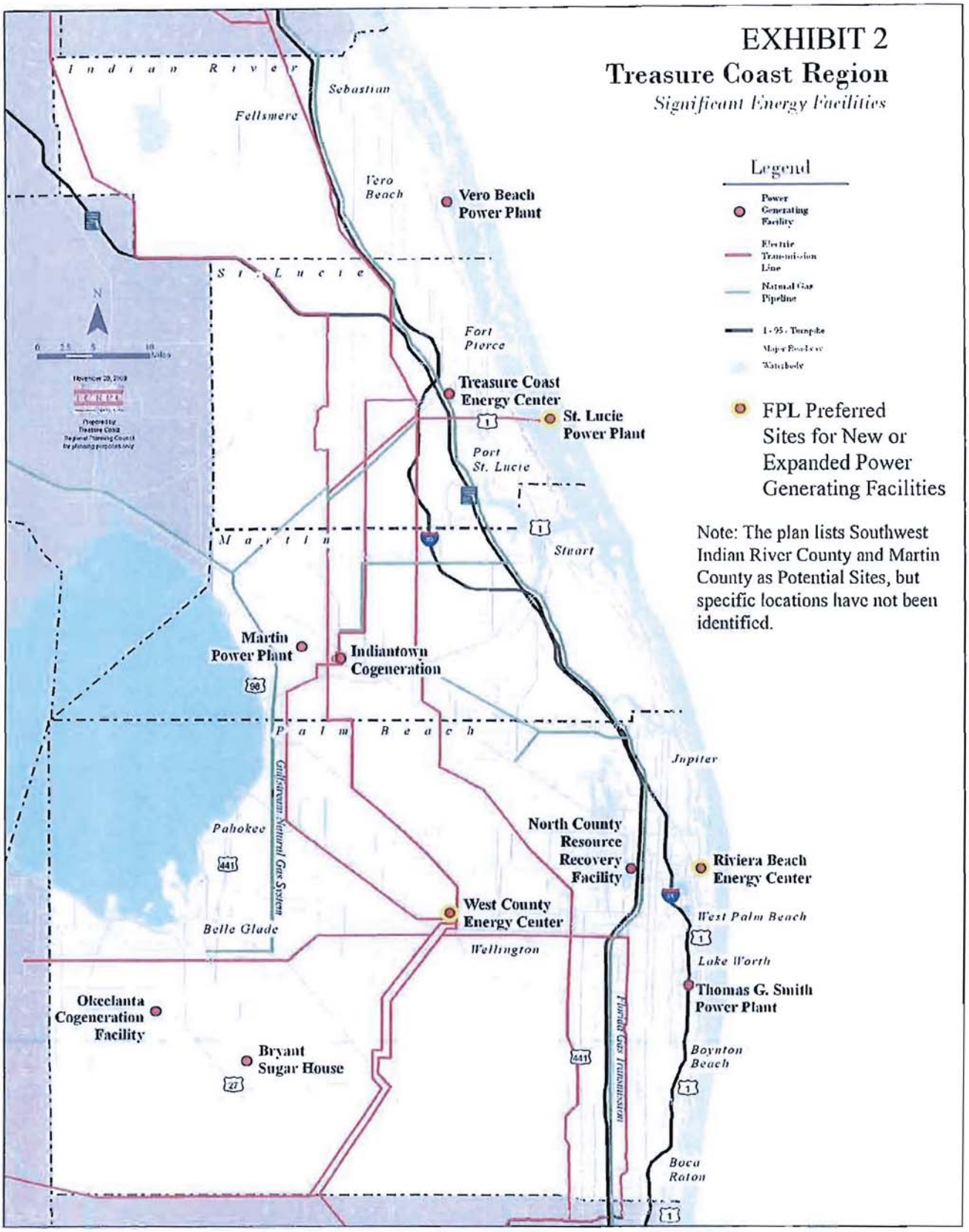
EXHIBIT 2
Treasure Coast Region
Significant Energy Facilities
Legend
Power Generating Facility
Electric Transmission Line
Natural Gas Pipeline
I-95 / Turnpike
Major Roadway
Waterbody
FPL Preferred Sites for New or Expanded Power Generating Facilities
Note: The plan lists Southwest Indian River County and Martin County as Potential Sites, but specific locations have not been identified.
Indian River
Sebastian
Fellsmere
Vero Beach
Vero Beach Power Plant
St. Lucie
Fort Pierce
Treasure Coast Energy Center
St. Lucie Power Plant
Port St. Lucie
Martin
Stuart
Martin Power Plant
Indiantown Cogeneration
Palm Beach
Jupiter
Pahokee
Gulfstream Natural Gas System
North County Resource Recovery Facility
Riviera Beach Energy Center
West County Energy Center
Belle Glade
Wellington
West Palm Beach
Lake Worth
Thomas G. Smith Power Plant
Okeelanta Cogeneration Facility
Bryant Sugar House
Florida Gas Transmission
Boynton Beach
Boca Raton
N
0 2.5 5 10 Miles
November 20, 2009
Prepared by Treasure Coast Regional Planning Council for planning purposes only
95
1
441
98
27

EXHIBIT 3

Schedule 6.2
Energy Sources % by Fuel Type

Energy Source	Units	Actual 1/ 2009	Actual 1/ 2010	Forecasted 2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1) Annual Energy Interchange 2/	%	8.5	7.3	5.2	5.3	4.6	4.3	4.1	1.4	0.0	0.0	0.0	0.0
(2) Nuclear	%	20.6	20.0	18.7	17.5	22.1	22.1	21.4	21.2	21.2	20.8	20.3	20.3
(3) Coal	%	5.7	5.0	6.1	5.5	6.5	5.7	6.0	5.5	5.8	5.3	5.7	5.2
(4) Residual (FO6) -Total	%	4.1	3.6	1.5	0.9	0.5	0.4	0.5	0.6	0.7	0.6	0.7	0.6
(5) Steam	%	4.1	3.6	1.5	0.9	0.5	0.4	0.5	0.6	0.7	0.6	0.7	0.6
(6) Distillate (FO2) -Total	%	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(7) Steam	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(8) CC	%	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(9) CT	%	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(10) Natural Gas -Total	%	56.4	58.4	65.9	67.5	62.8	63.9	63.3	66.2	66.9	68.0	67.7	68.2
(11) Steam	%	7.8	4.4	3.6	2.4	1.2	0.9	1.1	1.3	1.5	1.4	1.6	1.5
(12) CC	%	48.2	53.6	62.2	65.0	61.5	62.9	62.1	64.9	65.3	66.4	66.0	66.7
(13) CT	%	0.3	0.4	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
(14) Solar 3/	%	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
(15) PV	%	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(16) Solar Thermal 4/	%	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
(17) Other 5/	%	4.7	5.5	2.4	3.1	3.3	3.5	4.6	5.0	5.2	5.3	5.5	5.5
		100	100	100	100	100	100	100	100	100	100	100	100

1/ Source: A Schedules
2/ The projected figures are based on estimated energy purchases from SJRPP and the Southern Companies (UPS contract).
3/ Represents output from FPL's PV and solar thermal facilities.
4/ Estimated projected values.Solar thermal does not produce GWh, but produces steam that displaces fossil fuel-derived steam. Actual solar thermal contribution for 2010 was relatively small due to the fact that the facility did not begin commercial operation until late 2010. Its 2010 contribution to the Martin 8 CC GWh output is rolled into row (12) for reporting purposes. Its projected contributions for 2011 - 2020 are provided separately on row (16).
5/ Represents a forecast of energy expected to be purchased from Qualifying Facilities, Independent Power Producers, net of Economy and other Power Sales.
6/ Net Energy For Load values for the years 2011 - 2020 are also shown in Schedule 2.3.

EXHIBIT 4

From: Bryan Davis [mailto:BMDavis@pbcgov.org]
Sent: Monday, May 23, 2011 10:59 AM
To: Peter Merritt
Cc: Isaac Hoyos; Christian Davenport
Subject: RE: FPL 10 year Power Plant Site Plan 2011-2020

Peter,
Thanks for getting back to me with the information. The county will not be making any formal comment on the FPL plan. However, after speaking with Mr. Christian Davenport, County Archaeologist, there may be the potential for encountering archaeological resources at the Riviera Beach Energy Center. This facility is within the general vicinity of the Riviera mound complex (8PB30), which was largely destroyed during development. However, there remains the potential to unearth archaeological material during ground disturbing activities. These comments are presented as advisory, as the County does not have jurisdiction over cultural resources within a municipality.

Let me know if you have any questions or concerns. Thanks!

BRYAN M. DAVIS, CNU-A
URBAN DESIGNER/PRINCIPAL PLANNER
PALM BEACH COUNTY PLANNING DIVISION
2300 N. JOG RD., WPB, FL 33411
PHONE/FAX: 561.233.5308 /.5365
E-MAIL: BMDAVIS@PBCGOV.ORG

WELLINGTON

A GREAT HOMETOWN

May 24, 2011

Mr. Peter G. Merritt, Ph.D.
Regional Ecologist
Treasure Coast Regional Planning Council
421 SW Camden Avenue
Stuart, Florida 34994

RE: Florida Power & Light Company (FPL)
Ten-Year Power Plant Site Plan, 2011-2020

Dear Mr. Merritt:

This letter is in response to the April 22, 2011 memorandum regarding the Florida Public Service Commission (FPSC) annual review of the ten-year power plant site plans in the state and the Treasure Coast Regional Planning Council's (TCRPC) review. Based upon our review, Wellington has no comments to this specific plan. However, we do have a comment that looks beyond the next 10 years.

Wellington is planning for the long term and identifying trends, issues and programs that will sustain our community for the next 50 years. One specific issue Wellington and many other cities are addressing is the disposal of waste water treatment plant sludge. As one of the premier equestrian communities in Florida, Wellington is also tasked with the disposal of horse waste. In addition, this region of Florida has a large agricultural industry that produces both vegetative and animal waste. Based on today's technology the combination of these byproducts can create biofuel. This biofuel is currently being used to augment coal-fired plants for various industries.

Is FPL considering the use of biofuels as an alternative for the future? We foresee use of green technologies expanding, and we hope FPL is planning green solutions that not only produce energy, but help to solve problems associated with bio-solids that have energy potential.

12300 West Forest Hill Boulevard • Wellington, Florida 33414 • (561) 791-4000 • Fax (561) 791-4045
www.wellingtonfl.gov

We appreciate the opportunity to review the area power plant plans and look forward to working with FPL and the TCRPC to improve our region's future.

Sincerely,

Paul Schofield
Manager

CC: Wellington Council

W:\Departments\Redevelopment\Administrative\8. Letters and Correspondence\TCRPC-FPL-MemoResponse-050511.doc

14000 Greenbriar Boulevard • Wellington, Florida 33414 • (561) 791-4000 • Fax (561) 791-4045
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Regional Planning Councils

Withlacoochee RPC

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http://www.wrpc.cc

WITHLACOOCHEE REGIONAL PLANNING COUNCIL
SERVING LEVY, CITRUS, MARION, SUMTER AND HERNANDO COUNTIES

June 3, 2011

Mr. Phillip Ellis
Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

RE: Regional Review of *Progress Energy Florida, Inc. Ten-Year Site Plan, 2011-2020*

Dear Mr. Ellis:

Pursuant to Section 186.801 of the Florida Statutes and Rule 25-22.071 of the *Florida Administrative Code*, Withlacoochee Regional Planning Council (WRPC) staff hereby submits regional review comments for the above referenced plan as applicable to Citrus, Hernando, Levy, Marion and Sumter counties. Documents forwarded annually by PSC staff are reviewed for consistency with the *Strategic Regional Policy Plan for the Withlacoochee Region* (SRPP). WRPC staff writes this statement for the benefit of the public and all interested parties to convey clearly any scope of impact on SRPP goals and policies.

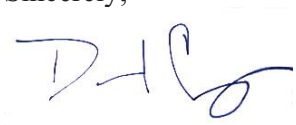
WRPC staff notes development schedule information contained on page 3-15 that states Progress Energy Florida (PEF) has filed revised dates for the planned commercial operation of Levy Nuclear Plant (LNP) Units 1 and 2 for June 2021 and December 2022, respectively. Based on what information is contained Schedule 10 (page 3-9), it would not be possible for WRPC staff to make additional determinations relating to the consistency of LNP transmission facilities with the SRPP. However, WRPC staff participated in the state-level, interagency site certification application review process for the construction and operation of all such above referenced facilities under the "Florida Electrical Power Plant Siting Act." Council staff comments for the proposed Levy Nuclear Power Plant are contained in a final agency report submitted to DEP and dated December 8, 2008, and the Final Agency Report on for transmission facilities was likewise submitted in a separate final agency report on August 28, 2008.

While ten-year site plan content is generally complementary to SRPP policies relating to renewable energy and energy conservation, development of new renewable energy resources within the region would directly advance implementation of these same SRPP policies. During the planning period from 2011 to 2020, up to 205 MW of additional electric generation capacity will be added within the current planning timeframe. Schedule 9, *Status Report and Specifications of Proposed Generating Facilities as of January 1, 2011*, on page 3-8, identifies natural gas and distillate fuel oil as intended primary and alternate fuels, respectively, for the proposed combustion turbine enhancement. WRPC staff would encourage PEF to consider how renewable energy, alternative fuels or hybrid technology might play a larger role in options for project development.

In summary, WRPC staff finds PEF's 2011 ten-year site plan to contain positive content that is consistent and well supported by the SRPP. Chapter 2 of the Withlacoochee SRPP identifies electric power supply and infrastructure as important for growth of the region. Furthermore, SRPP policies strongly support increased utilization of renewable energy system technology in power generation as well as collocation of planned facilities with other compatible economic uses. On the preceding basis, WRPC staff would recommend that the *Progress Energy Florida, Inc. Ten-Year Site Plan, 2011-2020* should be considered "suitable" from the perspective of this regional review.

Thank you for the opportunity to participate.

Sincerely,



David Connolly, AICP
Senior Planner

Cc: Mr. Kevin A. Smith, AICP, Citrus County Planning Division Director

Water Management Districts

South Florida WMD

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

11 JUL 14 AM 9:08

DIVISION OF
REGULATORY COMPLIANCE

July 12, 2011

Phillip Ellis
Division of Regulatory Analysis
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Dear Mr. Ellis:

Subject: Electric Utility 2011 Ten Year Site Plans

In response to your request, the South Florida Water Management District (District) has completed its review of the 2011 Ten Year Site Plans for Florida Power and Light, Florida Municipal Power Agency, and the Orlando Utilities Commission. Based on the information provided in the Site Plans, the District forwards no comments regarding the proposed sites.

For assistance or additional information, please contact Jim Golden, Lead Planner, at (561) 682-6862 or jgolden@sfwmd.gov.

Sincerely,

Rod A. Braun
Director
Office of Intergovernmental Programs

Water Management Districts

Southwest Florida WMD

June 30, 2011

Ms. Traci Matthews
Mr. Philip Ellis
Florida Public Service Commission
Capital Circle Office Center
2540 Shumard Oak Blvd
Tallahassee, FL 32399-0850

Re: Review of Electric Utility Ten-Year Site Plans:
Progress Energy Florida (PEF)
Tampa Electric Company (TECO)

Ms. Matthews/Mr. Ellis:

In accordance with Chapter 186.801, Florida Statutes, the staff of the Southwest Florida Water Management District (District) has reviewed the above referenced Electric Utility Ten-Year Site Plans (TYSP). The District reviews TYSPs for water resource impacts, including water quality impacts, current water supply and use and potential future demands. We take into consideration service area population projections and the type of technologies for power generation, cooling and air pollution control technologies. We look at existing facilities chapters, schedules 8 and 9 and the land use and environmental chapters. The following comments are provided for your consideration in the review process.

All new facilities and expansions to be located in the Southern Water Use Caution Area (SWUCA) and which require additional quantities of water for process and cooling water, will have to conform, not only to Water Use Permitting (WUP) and/or Site Certification requirements, but also to SWUCA rules. The SWUCA is an area designated by the District in response to salt water intrusion, lowered lake levels and reduced stream flows, which have been caused by excessive groundwater withdrawals. The District has heightened concerns regarding potential impacts due to future groundwater demands within the SWUCA and the future availability of groundwater within these areas. Because water supply is limited in the SWUCA, the District advises that land uses that can be developed in various locations and terrains be located elsewhere (outside the SWUCA) or be designed to use alternative water sources (e.g., reclaimed water, surface water, desalination). This would help the District achieve the goals outlined in the SWUCA Recovery Strategy.

Federal regulations requiring the enhancement of air quality controls to desulfurize emissions from coal-fired generating facilities may add to the water demands of power generating facilities. Additional water supply for process, cooling and/or air pollution control would potentially require regulatory review and approval via either the Water Use Permitting process and/or through a modification of the Site Certification. Utilities should continue to recognize the importance of the use of sources other than groundwater, as well as water conservation, and reflect this in future TYSPs.

The District's Regional Water Supply Plan (RWSP) Draft 2010 Update projects the need for an additional 15.7 mgd for all Industrial/Commercial/Mining & Dewatering/Power Generation for the 2010 to 2030 planning horizon. Additional information can be found in the District's RWSP and SWUCA Recovery Strategy. These documents can be found at the web address, http://www.swfwmd.state.fl.us/documents/.

Progress Energy Florida (PEF):

- PEF's Schedule 8 shows two planned increases in capability at the Crystal River Nuclear Power Plant. Crystal River nuclear powered Unit 3 capabilities are planned to be increased, once this year and again in 2013. Cooling water for the Crystal River units is supplied by seawater intake.
- An additional gas turbine unit expansion is planned, but currently unsited. This unsited expansion could potentially be located within the SWUCA and potentially be dependent on groundwater for cooling . No information regarding potential future demands or sources to meet those demands is included for this site. Additional water needs for this expansion would require regulatory review and approval via either the Water Use Permitting process and/or through a modification of the Site Certification and would be subject to SWUCA rules.

Tampa Electric Company (TECO):

- There are 4 combustion turbine units to be converted to natural gas powered combined cycle units planned at the Polk Power Station in Polk County. These are to be located within the SWUCA. While these units will be powered by natural gas, any additional water needs would require regulatory review and approval via either the Water Use Permitting process and/or through a modification of the Site Certification and would be subject to SWUCA rules.
- TECO's Schedule 8 shows this utility has 4 sited (Bayside and Big Bend) units and 4 unsited units planned to increase capacity, all gas turbines. While these units will be powered by natural gas, if located within the SWUCA, any additional water needs would require regulatory review and approval via either the Water Use Permitting process and/or through a modification of the Site Certification and would be subject to SWUCA rules.

The District appreciates the opportunity to participate in the review of Electric Utility TYSPs. However, while some utilities provide water source information and strive to develop alternative sources (i.e., other than fresh groundwater), current Florida Statutes which govern the electric utility TYSP process do not require utilities to provide information regarding current and future water demands and sources. Utilities are not required to provide the information, in TYSPs, that the District requires to effectively evaluate the needs and availability of water for power plants. We have, in the past, recommended the Public Service Commission consider seeking the necessary statutory and rule changes such that future water demands of potential new power plants are adequately considered in this planning process.

In lieu of that scenario, in 2009 District Planning Department staff coordinated with the Public Service Commission (Mr. Robert Graves) regarding additional information to be requested from electric utilities, in order to assess their water use and future demands. A questionnaire was suggested with the following information to be requested, but it is not known by the District if such a questionnaire was distributed to the utilities.

- *A separate question sheet should be submitted for each existing facility, as well as each additional unit that is undergoing the regulatory approval process, is under construction, construction completed (but not yet operational) or has been "planned" and "sited" (not necessary for prospective and unsited units). Each questionnaire should inquire about:*
    - *Current water sources and demands/use for existing units for process, cooling, air pollution control and potable supply*
    - *WUP/CUP information for these sources*

- *Projected demands for additional units that are undergoing regulatory approval, under construction, construction completed (but not yet operational) or have been "planned" and "sited" (not necessary for prospective and unsited units)*
- *Information regarding type of use (i.e, process, cooling method, air pollution control, potable needs if they have their own supply, etc.) and associated water demands for each existing and additional unit*
- *Conservation practices currently in use at existing facilities and projected for use in additional units*

- *It would also be very helpful if there was a "standard" calculated amount of water it takes to produce a KW of electricity for each production technology and associated uses (cooling method(s) demands, air pollution control demands, etc.).*

Again, the District appreciates the opportunity to review these utility TYSPs in coordination with the PSC. We would be glad to offer our assistance to the Public Service Commission (and/or electric utilities) in obtaining the necessary information for effective TYSP review or in the event the PSC seeks rule changes. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

D. Dianne Davies, AICP
Water Resources Planner
Planning Department
Southwest Florida Water Management District

DDD

Cc: Rand Frahm – SWFWMD
Roy Mazur – SWFWND

Water Management Districts

St. Johns River WMD

St. Johns River
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June 17, 2011

Mr. Philip Ellis
Division of Regulatory Analysis
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: 2011 Ten-Year Site Plans

Dear Mr. Ellis:

St. Johns River Water Management District (District) staff have reviewed the Ten-Year Site Plans (TYSPs) for Florida Power and Light Company (FPL), Florida Municipal Power Agency (FMPA), JEA, and Orlando Utilities Commission (OUC) relative to their suitability as planning documents. District staff reviews were conducted in accordance with Section 186.801, *Florida Statutes*, and Chapter 25-22.071, *Florida Administrative Code*. District staff comments are provided below.

1. Pursuant to subsection II, A.1.f., of the 2007 operating agreement concerning regulation between the District and the Florida Department of Environmental Protection (DEP), DEP shall review and take final action on all applications for permits and petitions for variances or waivers for power plants and electrical distribution and transmission lines and other facilities related to the production, transmission, and distribution of electricity.

2. The TYSPs for FPL, FMPA, JEA, and OUC did not contain information relative to projected water demand. In general, the District requires that all new uses and requested increases in consumptive use permit (CUP) allocations demonstrate the use of lowest-quality water source; justify the need for the requested allocation; demonstrate efficient use; and not impact springs, wetlands, water bodies, water quality, or existing legal uses. In addition, all other CUP criteria must also be met. When locating or expanding a site for a power facility, FPL, FMPA, JEA, and OUC should consider the availability of water to meet the proposed demands of the facility and potential impacts due to facility water use, including the cumulative impacts of locating or expanding a facility at a given location.

This letter does not substitute for or constitute permit review. If you have any questions, please contact District Policy Analyst Steve Fitzgibbons at (386) 329-4436 or *sfitzgib@sjrwmd.com.*

Sincerely,

Jeff Cole, Director
Office of Communications and Governmental Affairs

JC/sf

cc: Jim Quinn, Florida Department of Environmental Protection
Kraig McLane, St. Johns River Water Management District
Richard Burklew, St. Johns River Water Management District
Todd Eller, St. Johns River Water Management District
James Hollingshead, St. Johns River Water Management District
Caroline Silvers, St. Johns River Water Management District