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Ruth Nettles

090000-OT

From:	Michael Haff [MHaff@seminole-electric.com]
Sent:	Wednesday, April 01, 2009 4:23 PM
То:	Filings@psc.state.fl.us
Subject:	Seminole Electric Cooperative 2009 Ten-Year Site Plan
Attachments:	Seminole Electric Cooperative 2009 Ten-Year Site Plan.pdf

This electronic filing is made by:

Trudy Novak Vice-President, Bulk Power and Strategic Planning Seminole Electric Cooperative 16313 N. Dale Mabry Highway Tampa, FL 33688 (813) 963-0994 tnovak@seminole-electric.com

Undocketed

On behalf of Seminole Electric Cooperative

Consisting of 67 pages, including submittal letter

The attached documents for filing are Seminole Electric Cooperative's 2009 Ten-Year Site Plan, along with a submittal letter (see attached file)

We will also provide 25 hard copies of our Ten-Year Site Plan to Tom Ballinger in the Division of Strategic Analysis and Governmental Affairs.

Thank you for your attention to this request.

Michael Haff Seminole Electric Cooperative 16313 N. Dale Mabry Highway Tampa, FL 33688 (813) 963-0994 mhaff@seminole-electric.com

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02900 APR-18

FPSC-COMMISSION CLERK



April 1, 2009

Ann Cole, Commission Clerk Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, Florida 32399-0850

Dear Ms Cole:

In accordance with Section 186 801, Florida Statutes, Seminole Electric Cooperative, Inc. hereby submits our 2009 Ten Year Site Plan.

Please do not hesitate to call me if you have any questions or comments.

Sincerely,

Judy A. Mural

Trudy S. Novak Vice-President, Bulk Power and Generation Planning

Enclosure

cc: I. Woodbury

DOCUMENT NUMBER-DATE

APR - 09

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16313 North Dale Mabry Highway PO Box 272000 Tampa Florida 33688-2000 Telephone 813 963 0994 Fax 813 264 7906 www.seminole-electric com



Ten Year Site Plan 2009 - 2018 (Detail as of December 31, 2008) April 1, 2009

Submitted To: State of Florida Public Service Commission



0 2 9 0 0 APR -1 8 FPSC-COMMISSION CLERK

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V1.

1. DESCRIPTION OF EXISTING FACILITIES

1.1 Overview

Seminole Electric Cooperative, Inc. (Seminole) is a corporation organized and existing under the laws of the State of Florida for the purpose of providing reliable electric power at the lowest feasible cost to its ten distribution Members' systems. Seminole generates, transmits, purchases, and sells electric power and energy to its Member Cooperatives (Members), which are listed below:

- Central Florida Electric Cooperative, Inc. Chiefland, Florida
- Clay Electric Cooperative, Inc. Keystone Heights, Florida
- Glades Electric Cooperative, Inc. Moore Haven, Florida
- Lee County Electric Cooperative, Inc. North Fort Myers, Florida
- Peace River Electric Cooperative, Inc. Wauchula, Florida
- Sumter Electric Cooperative, Inc. Sumterville, Florida
- Suwannee Valley Electric Cooperative, Inc. Live Oak, Florida
- Talquin Electric Cooperative, Inc. Quincy, Florida
- Tri-County Electric Cooperative, Inc. Madison, Florida
- Withlacoochee River Electric Cooperative, Inc. Dade City, Florida



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Each of Seminole's Members is engaged primarily in the distribution of retail electric power. Seminole supplies full requirements power to each of its Members under the terms of a long-term wholesale power contract. The map at the beginning of this section indicates the counties in which each Member of Seminole provides service.

1.2 **Owned Resources**

1.2.1 Owned Generation

Seminole serves its aggregate Member loads with a combination of owned and purchased power resources. Seminole Generating Station (SGS) Units 1 & 2, 650 MW class coal-fired units located in Putnam County, began commercial operation in February 1984 and December 1984, respectively. Midulla Generating Station (MGS) Units 1 – 3 comprise a 500 MW class gas-fired combined cycle plant located in Hardee County, which began commercial operation in January 2002. Also at the MGS site are Units 4 - 8 which comprise a 300 MW class peaking plant which began commercial operation in December 2006. Seminole also owns a 15 MW share of the Progress Energy Florida (PEF) Crystal River 3 nuclear generating unit. Seminole's owned generating facilities are shown in Schedule 1.1.

1.2.2 Transmission

Seminole serves its Members' load primarily in three transmission areas: 6% directly through its own system (Seminole Direct Serve, or SDS), 60% through the PEF system, and 34% through the Florida Power & Light (FPL) system. Seminole's owned transmission facilities consist of 278 circuit miles of 230 kV and 140 circuit miles of 69 kV lines. Seminole's owned generating facilities are interconnected to the grid at seventeen 230 kV transmission interconnections with the following utilities: FPL, JEA, City of Ocala, PEF, Hardee Power Partners, and Tampa Electric Company.



Seminole's interconnections, all of which are at 230 kV, are shown in Schedule 1.2. Seminole contracts with FPL and PEF for firm network transmission service for its Member loads which connect to their respective transmission areas.

1.3 Purchased Power Resources

1.3.1 Purchases from Central Station Generating Resources

Seminole's capacity portfolio currently includes power under firm purchased power agreements with the following electric utilities and independent power producers (all ratings are for winter unless otherwise noted):

- Progress Energy Florida
 - PEF Intermediate Blocks 450 MW of firm system intermediate capacity through 2013, with certain early termination options, and 150 MW from January 2014 through December 2020.
 - PEF Base Between 150-225 MW of firm system base capacity through December 2009 (capacity output varies by month); 150 MW from January 2012 to December 2013; and 250 MW from January 2014 through May 2016.
 - PEF Winter Seasonal Peaking 600 MW of firm winter seasonal system peaking capacity from January 2014 through December 2020.
 - PEF System Average 150 MW of firm system average capacity from January 2014 through May 2016.
 - PEF Partial Requirements (PR) Load following requirements service for Seminole's Member load in the PEF area in excess of Seminole's designated committed capacity. This arrangement provides Seminole some flexibility to



modify the amount purchased in future years by modifying its committed capacity. PR service is primarily a peaking-type resource, with quantities varying by month based upon Seminole's committed capacity designations and actual monthly coincident demands. Seminole's actual purchased PR capacity for 2008 was 715 MW winter and 350 MW summer.

 PEF Virtual Delivery Point – Additional 150 MW of system average requirements-type load following service beginning January 2010 and increasing and/or decreasing to track Seminole Member load in the FPL area through July 2020.

• City of Gainesville - Full requirements service for a specified delivery point (approximately 19 MW peak demand in 2008) with certain notice provisions for termination beyond 2012.

• Reliant Energy Florida, LLC - 364 MW firm peaking capacity through December 2009, increasing to 546 MW from December 2009 through May 2014, from Reliant's Osceola combustion turbine units in Osceola County..

• Oleander Power Project, L.P. (a subsidiary of Southern Power Company) - 546 MW firm peaking capacity, thru December 2015, from three combustion turbine units in Brevard County.

• Calpine Construction Finance Company, L.P. - 360 MW of firm intermediate capacity, through May 2014, from Calpine's gas-fired Osprey combined cycle plant in Polk County.

Hardee Power Partners, Limited (a subsidiary of Invenergy LLC) - 356 MW first call



reserve capacity from the Hardee Power Station (HPS) in Hardee County to cover forced and scheduled outages of Seminole's base load generation. After the current contract ends in December 2012, a new agreement commences for the full 445 MW capacity output of HPS that extends through December 2027.

• FPL Peaking – Between 50-75 MW of firm system peaking capacity through December 2009 (capacity output varies by month).

• FPL Intermediate – 200 MW of firm system intermediate capacity from June 2014 to

May 2021.

1.3.2 Renewable Energy Purchases

Seminole is among the leaders in Florida with the amount of capacity purchased from renewable energy facilities. Seminole currently has 95 MW of renewable capacity under contract from the following sources:

- Lee County Resource Recovery 55 MW of firm waste-to-energy capacity through December 2028.
- Telogia Power, LLC 12.5 MW of firm capacity, through November 2023, from a biomass (wood and paper waste) facility located in Liberty County.
- Bio-Energy Partners 7 MW of firm capacity, through December 2009, from a landfill gas-to-energy facility located in Broward County.
- Landfill Energy Systems 15 MW (total) of firm capacity from new waste-to-energy facilities in Seminole and Brevard Counties. These contracts extend through March 2018.
- Timberline Energy LLC 1.6 MW of firm capacity from a new landfill gas-to-energy facility in Hernando County, Florida. The contract extends through March 2020. Seminole



has a second contract with Timberline Energy to purchase 3.2 MW of firm capacity from a new landfill gas-to-energy facility currently under construction in Sarasota County. Capacity purchases begin in December 2009 and extend through March 2021.



	Schedule 1.1 Existing Generating Facilities as of December 31, 2008												
Plant	Unit	Location	Unit	Fu	el Fuel Transportat		el ortation	Alt Fuel	Com In-Svc	Expected	Gen. Max Namenlate	Net Capability (MW)	
	No.		Туре	Pri	Alt	Pri	Alt	Days Use	Date (Mo/Yr)	(Mo/Yr)	(MW)	Summer	Winter
SGS	1	Palatka	ST	BIT/ PC	N/A	RR	N/A	N/A	02/84	Unk	715	658	665
SGS	2	Palatka	ST	BIT/ PC	N/A	RR	N/A	N/A	12/84	Unk	715	658	665
MGS	1-3	Hardee County	сс	NG	DFO	PL	тк	N/A	01/02	Unk	587	488	567
MGS	4-8	Hardee County	СТ	NG	DFO	PL	тк	N/A	12/06	Unk	312	270	280
Crystal River	3	Citrus County	ST	NUC	N/A	TK	N/A	N/A	03/77	Unk	890	15	15
Abbrevi	ations:	<u>Unit Type</u>	2		Fuel Type					Fuel Transportation			
		Unk Unknown N/A Not applicable		cable	BIT - Bituminous Coal NG - Natural Gas			PL – Pipelir	ne				
		ST - Stear including	m Turb nuclea	ine, r	NUC –	Nuclear				RR – Railroad			
		CC - Combined Cycle			PC – Petroleum Coke			TK – Truck					
		CT – Con Turbine	nbustio	'n	DFO - No. 2 Diesel Fuel Oil								
Note:		The namep	late cap	acity for (Crystal R	iver Unit 3	3 is the to	otal unit o	apability. '	The net capabil	lity is Seminole	e's share.	



Schedule 1.2 Transmission Grid Interconnections with Other Utilities							
Interconnection	Voltage (kV)	Location					
FPL	230	Rice					
FPL	230	Rice					
FPL	230	SGS					
FPL	230	SGS					
PEF	230	Martin West Tie Point					
PEF	230	Silver Springs Tie Point					
PEF	230	Silver Springs					
PEF	230	Dearmin Tie Point					
JEA	230	Jax Heights Tie Point					
City of Ocala	230	Silver Springs North					
City of Ocala	230	Silver Springs North					
FPL	230	Charlotte					
PEF	230	Vandolah					
PEF	230	Vandolah					
TECO	230	Hardee Sub					
Hardee Power Partners	230	Hardee Sub					
Hardee Power Partners	230	Hardee Sub					
Note: This table describes physical facility interconnections, which do not necessarily constitute contractual							



1.4 Demand Side Management (DSM) and Energy Conservation

As a generation and transmission rural electric cooperative that does not serve retail end-use customers, Seminole cannot offer conservation or DSM programs directly to retail consumers. However, Seminole promotes Member involvement in DSM through its wholesale rate signals and via two specific demand management programs: (1) a Coordinated Load Management Program; and (2) a Load Management Generation Program. In 2008, Seminole and its ten Members engaged in a joint initiative to expand demand-side resources. The primary elements of this initiative include an expansion of consumer education relating to energy efficiency and a joint assessment of the feasibility and effectiveness of specific demand-side management, energy efficiency, and energy conservation programs.

1.4.1 Seminole's Member Programs

The demand-side management programs offered by Seminole's Members include residential load control, load management generation, distribution system voltage reduction, and alternative rate options for interruptible, time of use, and curtailable service. These programs provide an aggregate demand management capability of approximately 235 MW.

All Members promote energy conservation and energy efficiency. Most Members offer inhome energy audits at no cost, and all members distribute compact florescent light bulbs at no cost. Member web sites are focused on educating consumers on the benefits of energy conservation and energy efficiency. Most web sites offer energy saving tips, offer on-site energy audits, provide tools for consumers to perform on-line energy audits, and provide links to Touchstone Energy's Home Energy Library. In October 2007, one member began offering consumer rebates for energy efficiency improvements including ceiling insulation, HVAC efficiency upgrades, and solar hot



water systems. As a part of Seminole's small photovoltaic interconnection program, Seminole's Members now have over fifty such systems connected to their distribution systems. Under Seminole's net metering program, many of these systems have been converted over to the net metering format. Finally, over the past 15 years, Seminole's Members have significantly reduced their energy purchases from Seminole by lowering their distribution system line losses. In aggregate, annual distribution line losses have decreased approximately 3%. This translates to a reduction in Seminole's total system energy requirements by over 400,000 MWh.

1.4.2 Seminole's DSM Programs

Seminole's Load Management Generator Program allows its Members to partner with their retail customers to install "behind the meter" customer-based distributed generation (DG) to operate as dispatchable load management resources for Seminole's system, while providing on-site backup generation to improve customer reliability. The demand management benefits to Seminole due to the Members' participation are included under Members' Programs above.

Under Seminole's Coordinated Load Management Program, Seminole coordinates the Members' residential load control and load management generator programs which reduce Seminole's peak demand. Seminole's load and energy forecast takes into account reductions due to the residential load control program and the load management generator programs.

1.4.3 Conservation

Seminole's Members have implemented a range of energy efficiency and energy conservation programs which have reduced Seminole's total requirements for electric energy. Except as described specifically below, these reductions have not been specifically quantified or estimated but are included in Seminole's load history. As such, Seminole's load forecast effectively extrapolates the



growth of past programs into the future.

The current load forecast has been adjusted to estimate the expected impact of two expected influences on consumer energy use: (1) an estimate of the effects of the 2005 Energy Policy Act, and (2) Seminole's strategic initiative to mitigate growth in annual residential energy usage per consumer by 2011.

An evaluation of the 2005 Energy Policy Act revealed that two areas of improved efficiency standards, central air conditioning and heat pump heating, would have the most significant impact on future energy sales of Seminole's members.

In an effort to coordinate and further promote energy conservation, Seminole and its Members formed an energy efficiency working group in 2008. This group will share information on successful energy efficiency programs and jointly assess feasibility and effectiveness of specific programs.

Finally, the members routinely evaluate the economic feasibility of maintaining their current programs into the future. During each load forecast study Seminole evaluates the member's load management programs for anticipated future changes. None of Seminole's members have announced plans to expand their load management programs at this time although several are evaluating the feasibility of expansion. As a result, Seminole has not projected any further growth in the load management program over the forecast period.



2. FORECAST OF ELECTRIC DEMAND AND ENERGY CONSUMPTION

2.1 Consumer Base and Related Trends

2.1.1 Service Area Economy

Seminole's Member systems provide electricity to Member consumers in 46 of Florida's 67 counties. The area served is bounded on the west and north by the Apalachicola River and the Georgia border respectively, extending down to the southwestern and south-central regions of Florida. The service territory encompasses a variety of geographic and weather conditions as well as a diverse mix of economic activity and demographic characteristics.

2.1.2 Population and Consumers

Population growth in Florida (including Seminole Members' service areas) is significantly influenced by migration from northern states. Therefore, national economic factors influencing migration have a large impact on population growth in areas served by Seminole's Members. Historically, Seminole's residential consumer growth rate has exceeded the rate of growth for Florida as a whole. For the 1998-2007 period, Seminole's residential customer growth rate was 3.5 percent, higher than the statewide growth rate of 2.6 percent.

2.1.3 Income

Statistics indicate that almost 40 percent of the income in Florida comes from non-wage sources such as dividends, interest, rent, and transfer payments. This is approximately 10 percentage points higher than national averages. This statistic is reflective of a higher population concentration of retirees. Historically, these types of income are relatively stable and consequently help smooth the impacts of economic change on the Florida economy and Member service areas.



2.2 Forecast Results

2.2.1 Overview

The forecast projection reflects a poor economic outlook for Florida and the nation as a whole over the next few years. Beginning in 2014, the residential consumer growth rate becomes consistent with the growth experienced by the Seminole system during most of the 1990's. However, the residential usage per consumer growth rate is projected to be much lower over the entire forecast period, reflecting higher real prices, higher appliance efficiency standards, and more energy conservation by consumers.

Beginning in 2010, Seminole will only serve a portion of the load requirements of Lee County Electric Cooperative (LCEC) and in 2014 will no longer serve LCEC. This has the effect of lowering Seminole's long-term energy and demand growth rates.

2.2.2 Population and Consumers

Historical and forecasted population for Seminole Members' service area is shown on Schedules 2.1 through 2.3. Seminole's Members serve significant portions of the less urbanized areas of the state which are located adjacent to metropolitan areas. These cooperative-served areas are less saturated and are impacted by suburban growth around these urban centers. It is therefore reasonable to expect continued higher consumer growth rates for Seminole's Members than for Florida as a whole.

2.2.3 Usage per Consumer

Residential usage per consumer increased annually until 2003, reaching a high of 14,598 in that year. This value has decreased since then, to 14,235 in 2007. For the period 2000-2007, residential usage per consumer for the Seminole system was comparable to the two largest investor-



owned utilities which serve similar regional loads. Schedule 1.3 summarizes survey results for 1994 and 2005 (Seminole's most recent survey). During this period, larger homes were built and appliance saturations steadily increased.

Schedule 1.3 Homes and Electric Appliance Saturations (%)							
	1994	2005					
Single Family Homes	64	66					
Homes > 2000 sq ft	18	26					
Homes < 1200 sq ft	29	22					
Primary Space Heating	80	87					
Air Conditioning	93	97					
Heat Pump	33	51					
Water Heater	93	91					
Refrigerator	99	99					
Television	99	98					
Home Computers	18	69					
VCR	78	80					
Electric Range	79	86					
Microwave Oven	92	97					
Dishwasher	59	73					
Clothes Dryer	79	87					
Pool Pump	15	16					
SOURCE: "Residential Survey," Seminole Electric C	cooperative, Inc., 1	994 and 2005					

It is expected that usage per consumer will remain flat after 2010. Air conditioning in homes is reaching maximum saturation, while higher efficiency of new air conditioning, new appliance energy efficiency standards, and an increase in the real price of electricity are collectively having a negative impact on residential energy usage. However, survey results suggest that past growth has been not only in traditional appliance loads, but also in new loads such as home computers and other electronic equipment. Further expansion in electro-technology in the home will be an important



influence on future usage per consumer. In 2008, Seminole's average residential usage was 13,728 KWh. Seminole's average residential usage is projected to increase 0.4% annually through 2017, lower than the 1.2 % projected for Florida.

Commercial usage per consumer is much lower on the Seminole system (54,808 KWh in 2007) than in Florida as a whole (80,762 KWh). This difference is even starker considering that Seminole Members' commercial usage also includes industrial consumers, whereas the Florida average does not. Seminole's Member commercial sector is dominated by small commercial loads. Commercial/industrial usage per consumer is projected to increase at an average annual growth rate of 1.4 percent through 2018.

2.2.4 Energy Sales and Purchases

Residential energy sales are projected to grow at 0.2% annually between 2009 and 2018. The energy sales forecast reflects energy savings from historical conservation efforts, incremental conservation growth at the same rate of adoption, and a conservation estimate based primarily on the 2005 Energy Policy Act. Commercial energy sales are projected to grow at an annual average of 1.5 percent over the same period. These statistics for growth include the effect of the departure of LCEC from Seminole's load responsibility in 2014.

2.2.5 Peak Demand

Seminole's winter peak demand is projected to increase at an average annual rate of 0.9% over the ten-year planning horizon, while summer peak demand is projected to increase at an average annual rate of 0.7% over the same period. Similarly, these growth statistics include the departure of LCEC in 2014.

Seminole as a whole, as well as the majority of its Member systems, is expected to continue



to be winter peaking. For the Seminole system, winter peaks are expected to be approximately 16% higher than summer peaks. The continued winter-peaking nature of the Seminole system is due primarily to continued prominence of electric space-heating saturation in the foreseeable future.

The peak demand in Seminole's current load forecast reflects no additional load management. However, during 2008, as part of a recently adopted strategic initiative, Seminole and its Members began assessing the viability of a range of demand side alternatives.

Seminole stipulates that it counts its consumer demand once and only once, on an aggregated and dispersed basis, in developing its actual and forecast consumer demand values.

2.2.6 Forecast Scenarios

Seminole creates a high and low population growth scenario in addition to the base forecast. Because Seminole's system is primarily residential load, population is the primary driving force behind Seminole's load growth. Therefore, high and low population growth scenarios are developed for each Member system based on the University of Florida's Bureau of Economic Business Research's (BEBR) alternative scenarios.

Schedules 2.1, 2.2, and 2.3 summarize energy usage and consumer Members by customer class. Schedules 3.1.1, 3.1.2, and 3.1.3 provide summer peak demand forecasts for base, high population and low population scenarios. Schedules 3.2.1, 3.2.2, and 3.2.3 provide similar data for winter peak demand.



Schedule 2.1 History and Forecast of Energy Consumption and Number of Customers by Customer Class							
	Estimated	RESIDENTIAL					
Year	Population Served by Members	Mernbers Per Household	GWh	Avg. Number of Customers	Average KWh Consumption Per Customer		
1999	1,332,589	2.20	7,993	607,059	13,167		
2000	1,367,127	2.19	8,550	623,151	13,721		
2001	1,403,692	2.19	8,755	640,290	13,673		
2002	1,442,180	2.18	9,543	660,416	14,450		
2003	1,485,457	2.16	10,016	686,136	14,598		
2004	1,539,863	2.16	10,221	713,547	14,324		
2005	1,600,374	2.15	10,807	744,618	14,513		
2006	1,663,858	2.13	11,153	780,688	14,286		
2007	1,709,836	2.13	11,444	803,957	14,235		
2008	1,743,397	2.16	11,105	808,924	13,728		
2009	1,777,236	2.17	11,609	819,608	14,164		
2010	1,688,059	2.17	11,054	777,149	14,224		
2011	1,730,488	2.16	11,405	800,365	14,250		
2012	1,772,914	2.15	11,757	824,999	14,250		
2013	1,815,340	2.13	12,154	852,124	14,263		
2014	1,541,155	2.09	10,504	737,132	14,250		
2015	1,574,503	2.07	10,834	760,277	14,250		
2016	1,609,078	2.05	11,182	784,734	14,250		
2017	1,643,655	2.03	11,529	809,031	14,250		
2018	1,678,227	2.02	11,867	832,798	14,250		



Schedule 2.2 History and Forecast of Energy Consumption and Number of Customers by Customer Class								
		COMMERC	IAL					
Year	GWh	Avg. Number of Customers	Average KWh Consumption Per Customer	Other Sales (GWh)	Total Sales (GWh)			
1999	3,109	59,043	52,657	126	11,228			
2000	3,415	62,842	54,343	135	12,100			
2001	3,549	66,729	53,185	126	12,430			
2002	3,727	68,742	54,217	163	13,433			
2003	3,961	70,263	56,374	161	14,138			
2004	4,195	74,260	56,491	167	14,583			
2005	4,472	77,548	57,668	142	15,421			
2006	4,737	84,346	56,162	159	16,049			
2007	4,840	88,338	54,808	165	16,449			
2008	4,892	86,153	56,786	162	16,158			
2009	5,018	88,817	56,496	173	16,800			
2010	4,908	85,045	57,711	168	16,130			
2011	5,147	87,829	58,600	172	16,724			
2012	5,325	90,342	58,940	176	17,258			
2013	5,643	92,862	60,766	181	17,988			
2014	5,058	81,121	62,347	163	15,725			
2015	5,215	83,280	62,621	167	16,216			
2016	5,383	85,541	62,935	171	16,736			
2017	5,556	87,805	63,282	175	17,260			
2018	5,734	90,069	63,657	180	17,781			
NOTE: Comm	nercial class includ	les industrial customers; Other sa	ales class includes lighting customers.					



Schedule 2.3 History and Forecast of Energy Consumption and Number of Customers by Customer Class								
Year	Sales for Resale (GWh)	Utility Use & Losses (GWh)	Net Energy for Load (GWh)	Other Customers (Avg. Number)	Total Number of Customers			
1999	0	939	12,167	3,593	669,695			
2000	0	994	13,094	3,765	689,758			
2001	0	864	13,294	3,901	710,920			
2002	0	1,257	14,690	5,106	734,264			
2003	0	1,640	15,778	5,240	761,639			
2004	0	1,830	16,413	5,307	793,114			
2005	0	1,345	16,766	5,544	827,710			
2006	0	1,306	17,355	5,101	870,135			
2007	0	1,221	17,670	5,089	897,384			
2008	0	1,171	17,329	5,045	900,122			
2009	0	1,277	18,077	5,296	913,721			
2010	0	1,214	17,344	5,328	867,522			
2011	0	1,258	17,982	5,444	893,638			
2012	0	1,298	18,556	5,561	920,902			
2013	0	1,352	19,340	5,676	950,662			
2014	0	1,153	16,878	5,629	823,882			
2015	0	1,189	17,405	5,739	849,296			
2016	0	1,229	17,965	5,853	876,128			
2017	0	1,267	18,527	5,967	902,803			
2018	0	1,304	19,085	6,083	928,950			



Schedule 3.1.1 History and Forecast of Summer Peak Demand (MW) - <i>Base Case</i>									
				Distributed	Resident	ial	Commercial		Net
Year	Total	Wholesale	Retail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
1999	2,719	2,719	0	N/A	92	N/A	N/A	N/A	2,627
2000	2,774	2,774	0	N/A	121	N/A	N/A	N/A	2,653
2001	2,837	2,837	0	N/A	104	N/A	N/A	N/A	2,733
2002	3,140	3,140	0	66	99	N/A	N/A	N/A	2,975
2003	3,250	3,250	0	77	158	N/A	N/A	N/A	3,015
2004	3,359	3,359	0	58	74	N/A	N/A	N/A	3,227
2005	3,690	3, 690	0	73	78	N/A	N/A	N/A	3,539
2006	3,862	3,862	0	74	130	N/A	N/A	N/A	3,658
2007	4,021	4,021	0	77	105	N/A	N/A	N/A	3,839
2008	3,793	3,793	0	63	100	N/A	N/A	N/A	3,630
2009	4,131	4,131	0	102	97	N/A	N/A	N/A	3,932
2010	3,976	3,976	0	99	90	N/A	N/A	N/A	3,787
2011	4,135	4,135	0	99	90	N/A	N/A	N/A	3,946
2012	4,262	4,262	0	99	90	N/A	N/A	N/A	4,073
2013	4,459	4,459	0	99	90	N/A	N/A	N/A	4,270
2014	3,859	3,859	0	85	55	N/A	N/A	N/A	3,719
2015	3,975	3,975	0	85	55	N/A	N/A	N/A	3,835
2016	4,098	4,098	0	85	55	N/A	N/A	N/A	3,958
2017	4,221	4,221	0	85	55	N/A	N/A	N/A	4,081
	4,342	4,342	0	85	55	N/A	N/A	N/A	4,202

Historical load management data is actual amount exercised at the time of the seasonal peak demand. Forecast data is the maximum amount available.





Schedule 3.1.2 Forecast of Summer Peak Demand (MW) - <i>High Case</i>													
				Distributed	Resident	tial	Commer	cial	Net				
Year	Total	Wholesale	Retail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Demand				
2009	4,245	4,245	0	102	97	N/A	N/A	N/A	4,046				
2010	4,180	4,180	0	99	90	N/A	N/A	N/A	3,991				
2011	4,413	4,413	0	99	90	N/A	N/A	N/A	4,224				
2012	4,607	4,607	0	99	90	N/A	N/A	N/A	4,418				
2013	4,864	4,864	0	99	90	N/A	N/A	N/A	4,675				
2014	4,249	4,249	0	85	55	N/A	N/A	N/A	4,109				
2015	4,415	4,415	0	85	55	N/A	N/A	N/A	4,275				
2016	4,603	4,603	0	85	55	N/A	N/A	N/A	4,463				
2017	4,794	4,794	0	85	55	N/A	N/A	N/A	4,654				
2018	4,984	4,984	0	85	55	N/A	N/A	N/A	4,844				

	Schedule 3.1.3 Forecast of Summer Peak Demand (MW) - <i>Low Case</i>													
				Distributed	Resident	tial	Commer	cial	Net					
Year	lotal	wholesale	Retail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Demand					
2009	4,063	4,063	0	102	97	N/A	N/A	N/A	3,864					
2010	3,860	3,860	0	99	90	N/A	N/A	N/A	3,671					
2011	3,973	3,973	0	99	90	N/A	N/A	N/A	3,784					
2012	4,048	4,048	0	99	90	N/A	N/A	N/A	3,859					
2013	4,196	4,196	0	99	90	N/A	N/A	N/A	4,007					
2014	3,596	3,596	0	85	55	N/A	N/A	N/A	3,456					
2015	3,669	3,669	0	85	55	N/A	N/A	N/A	3,529					
2016	3,744	3,744	3,744 0 85		55	N/A	N/A	N/A	3,604					
2017	3,816	6 3,816 0 85		85	55	N/A	N/A	N/A	3,676					
2018	3,886	3,886	0	85	55	N/A	N/A	N/A	3,746					



	Schedule 3.2.1 History and Forecast of Winter Peak Demand (MW) - Base Case													
				Distributed	Residen	tial	Commer	cial	Net					
Year	Total	Wholesale	Retail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand					
1998-99	3,416	3,416	0	N/A	220	N/A	N/A	N/A	3,196					
1999-00	3,389	3,389	0	N/A	180	N/A	N/A	N/A	3,209					
2000-01	3,769	3,769	0	N/A	143	N/A	N/A	N/A	3,626					
2001-02	3,691	3,691	0	N/A	125	N/A	N/A	N/A	3,566					
2002-03	4,308	4,308	0	58	95	N/A	N/A	N/A	4,155					
2003-04	3.672	3,672	0	56	85	N/A	N/A	N/A	3,531					
2004-05	4,107	4,107	0	65	91	N/A	N/A	N/A	3,951					
2005-06	4,365	4,365	0	63	77	N/A	N/A	N/A	4,225					
2006-07	4,240	4,240	0	105	109	N/A	N/A	N/A	4,026					
2007-08	4,426	4,426	0	72	133 N/A		N/A	N/A	4,221					
2008-09	4,993	4,993	0	78	150 N/A		N/A	N/A	4,765					
2009-10	4,629	4,629	0	99	133	N/A	N/A	N/A	4,397					
2010-11	4,739	4,739	0	99	133	N/A	N/A	N/A	4,507					
2011-12	4,881	4,881	0	99	133	N/A	N/A	N/A	4,649					
2012-13	5,035	5,035	0	99	133	N/A	N/A	N/A	4,803					
2013-14	4,476	4,476	0	85	82	N/A	N/A	N/A	4,309					
2014-15	4,613	4,613	0	85	82	N/A	N/A	N/A	4,446					
2015-16	4,755	4,755	0	85	82	N/A	N/A	N/A	4,588					
2016-17	4,902	4,902	0	85	82	N/A	N/A	N/A	4,735					
2017-18	5,049	5,049	0	85	82	N/A	N/A	N/A	4,882					
2018-19	5,195	5,195	0	85	82	N/A	N/A	N/A	5,028					

Historical load management data is actual amount exercised at the time of the seasonal peak demand. Forecast data is the maximum amount available



	Schedule 3.2.2 Forecast of Winter Peak Demand (MW) - <i>High Case</i>													
			D (1	Distributed	Residen	tial	Commer	cial	Net					
Year	Total	Wholesale	Keta il	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Demand					
2009-10	4,888	4,888	0	99	133	N/A	N/A	N/A	4,656					
2010-11	5,019	5,019	0	99	133	N/A	N/A	N/A	4,787					
2011-12	5,245	5,245	0	99	133	N/A	N/A	N/A	5,013					
2012-13	5,563	5,563	0	99	133	N/A	N/A	N/A	5,331					
2013-14	4,912	4,912	0	85	82	N/A	N/A	N/A	4,745					
2014-15	5,107	5,107	0	85	82	N/A	N/A	N/A	4,940					
2015-16	5,320	5,320	0	85	82	N/A	N/A	N/A	5,153					
2016-17	5,547	5,547	0	85	82	N/A	N/A	N/A	5,380					
2017-18	5,776	5,776	0	85	82	N/A	N/A	N/A	5,609					
2018-19	6,006	6,006	0	85	82	N/A	N/A	N/A	5,839					

Schedule 3.2.3 Forecast of Winter Peak Demand (MW) - <i>Low Case</i>													
	m ()		D (11	Distributed	Resident	tial	Commer	cial	Net				
Year	Total	w holesale	Ketail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Demand				
2009-10	4,609	4,609	0	99	133	N/A	N/A	N/A	4,377				
2010-11	4,591	4,591	0	99	133	N/A	N/A	N/A	4,359				
2011-12	4,676	4,676	0	99	133	N/A	N/A	N/A	4,444				
2012-13	4,849	4,849	0	99	133	N/A	N/A	N/A	4,617				
2013-14	4,204	4,204	0	85	82	N/A	N/A	N/A	4,037				
2014-15	4,291	4,291	0	85	82	N/A	N/A	N/A	4,124				
2015-16	4,379	4,379	0	85	82	N/A	N/A	N/A	4,212				
2016-17	4,467	4,467 4,467 0 85			82	N/A	N/A	N/A	4,300				
2017-18	4,552	4,552	0	85	82	N/A	N/A	N/A	4,385				
2018-19	4,636	4,636	0	85	82	N/A	N/A	N/A	4,469				



Schedule 3.3.1 History and Forecast of Annual Net Energy for Load (GWh) - <i>Base Case</i>													
Year	Total	Conse Residential	rvation Commercial	Retail	Total Sales	Utility Use & Losses	Net Energy for Load	Load Factor %					
1999	12,167	N/A	N/A	0	11,228	939	12,167	43.5					
2000	13,094	N/A	N/A	0	12,100	994	13,094	46.6					
2001	13,294	N/A	N/A	0	12,430	864	13,294	41.9					
2002	14,690	N/A	N/A	0	13,433	1,257	14,690	47.0					
2003	15,778	N/A	N/A	0	14,138	1,640	15,778	43.3					
2004	16,413	N/A	N/A	0	14,583	1,830	16,413	53.1					
2005	16,766	N/A N/A N/A N/A N/A N/A		0	15,421	1,345	16,766	48.4					
2006	17,355	N/A	N/A	0	16,049	1,306	17,355	46.9					
2007	17,671	1	N/A	0	16,449	1,221	17,670	50.1					
2008	17,330	1	N/A	0	16,158	1,171	17,329	46.9					
2009	18,107	30	N/A	0	16,800	1,277	18,077	43.3					
2010	17,395	51	N/A	0	16,130	1,214	17,344	45.0					
2011	18,099	117	N/A	0	16,724	1,258	17,982	45.5					
2012	18,767	211	N/A	0	17,258	1,298	18,556	45.6					
2013	19,648	308	N/A	0	17,988	1,352	19,340	46.0					
2014	17,288	410	N/A	0	15,725	1,153	16,878	44.7					
2015	17,907	410 N/A 502 N/A		0	16,216	1,189	17,405	44.7					
2016	18,507	542	N/A	0	16,736	1,229	17,965	44.7					
2017	19,236	708	N/A	0	17,260	1,267	18,527	44.7					
2018	19,907	822	N/A	0	17,781	1,304	19,085	44.6					



	Schedule 3.3.2 Forecast of Annual Net Energy for Load (GWh) - <i>High Case</i>													
V	Tradal	Conse	rvation	Potoil	Wholesele	Utility Use	Net	Load						
Year	10821	Residential Commercial		Ketan	w noiesaie	& Losses	for Load	Factor %						
2009	18,571	30	N/A	0	17,242	1,299	18,541	45.5						
2010	18,322	51	N/A	0	17,001	1,270	18,271	44.8						
2011	19,311	117	N/A	0	17,860	1,334	19,194	45.8						
2012	20,283	211	N/A	0	18,677	1,395	20,072	45.7						
2013	21,416	308	N/A	0	19,634	1,474	21,108	45.2						
2014	19,012	410	N/A	0	17,334	1,268	18,602	44.8						
2015	19,862	502	N/A	0	18,040	1,320	19,360	44.7						
2016	20,750	542	N/A	0	18,830	1,378	20,208	44.8						
2017	21,786	708	N/A	0	19,640	1,438	21,078	44.7						
2018	22,770	822	N/A	0	20,451	1,497	21,948	44.7						

	Schedule 3.3.3 Forecast of Annual Net Energy for Load (GWh) - <i>Low Case</i>													
N	Tritil	Conse	rvation	Deteil	Wholegele	Utility Use	Net	Load						
Year	10881	Residential Commercial 30 N/A		Retail	wholesale	& Losses	for Load	Factor %						
2009	17,822	30	N/A	0	16,545	1,247	17,792	44.8						
2010	16,939	51	N/A	0	15,715	1,173	16,888	44.0						
2011	17,378	117	N/A	0	16,062	1,199	17,261	45.2						
2012	17,812	211	N/A	0	16,378	1,223	17,601	45.2						
2013	18,457	308	N/A	0	16,882	1,267	18,149	44.9						
2014	16,111	410	N/A	0	14,630	1,071	15,701	44.4						
2015	16,539	502	N/A	0	14,943	1,094	16,037	44.4						
2016	16,919	542	N/A	0	15,260	1,117	16,377	44.4						
2017	17,415	708	N/A	0	15,567	1,140	16,707	44.4						
2018	17,851	822	N/A	0	15,867	1,162	17,029	44.3						



Previo	ous Year and 2	-Year Forecast o	Schedule 4 f Peak Demand	and Net Ener	gy for Load by	Month	
	2008	Actual	2009 F	orecast	2010 Fe	recast	
Month	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	
January	4,221	1,419	4,584	1,495	4,397	1,433	
February	3,345	1,226	3,507	1,214	3,403	1,167	
March	2,844	1,259	2,956	1,290	2,882	1,234	
April	2,834	1,281	3,003	1,318	2,872	1,255	
May	2,834 1,281 3,566 1,573		3,321	1,527	3,173	1,451	
June	2,834 1,281 3,566 1,573 3,576 1,659		3,596	1,674	3,450	1,599	
July	3,590	1,695	3,716	1,832	3,552	1,745	
August	3,604	1,709	3,932	1,944	3,787	1,866	
September	3,630	1,623	· 3,616	1,681	3,497	1,619	
October	3,113	1,353	3,292	1,474	3,167	1,413	
November	3,182	1,254	2,689	1,228	2,647	1,194	
December	3,406	1,278	3,307	1,400	3,275	1,368	
ANNUAL		17,329		18,077		17,344	



2.3 Forecast Assumptions

2.3.1 Economic and Demographic Data

Seminole's economic and demographic data base has four principal sources: (1) population from the "Florida Population Studies" furnished by the BEBR, (2) housing permits, income, and employment data furnished by Moody's Economy.com (3) electricity price data from Seminole's Member cooperatives "Financial and Statistical Reports" (RUS Form 7), and (4) appliance and housing data from the "Residential Appliance Surveys" conducted by Seminole and its Member systems since 1980.

Population is the main explanatory variable in the residential and commercial/industrial consumer models. Historical population data by county is obtained for the 46 counties served by Seminole Member systems. Combining the county forecasts yields a population forecast for each Member. Three sets of population forecasts for each county are provided by the BEBR: low, medium, and high scenarios. Historical population growth trends are analyzed to determine the most appropriate combination of scenarios for each Member system. Low and high population scenarios are also developed for each Member.

Real Per Capita Income (RPCI) is an explanatory variable in the residential and commercial/industrial usage per consumer models. The Consumer Price Index for All Urban Consumers (CPI-U) published by the U.S. Bureau of Labor Statistics is used to convert historical nominal income to real values. Total non-farm employment (EMPL) is also used in the commercial/industrial energy usage model. County forecasts of RPCI and EMPL are taken from Moody's Economy.Com's, October 2008 long-term economic forecast.



The real price of electricity is used in the residential and commercial/industrial energy models. The real price is calculated by dividing KWh sales for each consumer class by the corresponding revenue, and then by deflating the result by the CPI-U. For the forecast, the real price of electricity is assumed to increase in the future based on system-wide historical retail rates.

Appliance saturations and housing data are obtained from Seminole's Residential Appliance Survey. The information from the surveys is combined with the residential consumer forecast to produce weighted appliance stock variables for space-conditioning appliances which are used in the residential energy usage model and the peak demand load factor model.

2.3.2 Weather Data

Seminole obtains hourly weather data from the National Oceanic and Atmospheric Administration (NOAA) for six weather stations located in or around Seminole's Member service area. To better reflect weather conditions in each Member's service territory, different weather stations are assigned to individual Member systems based on geographic proximity.

Monthly heating degree hours (HDH) and cooling degree hours (CDH) are used in the energy usage models, while the peak demand models use HDH and CDH on Seminole's peak days. Seminole uses different temperature cut-off points for air conditioning and space heating demand. In addition, there are different winter cut-off values for Members in the northern versus the southern regions.

2.3.3 Sales and Hourly Load Data

Monthly operating statistics have been furnished by the Member systems to Seminole back to 1970. Included in this data are statistics by class on number of consumers, KWh sales, and revenue. This data is the basis for consumer and energy usage models. Hourly loads for each Member and



the Seminole system, as well as the Members' monthly total energy purchases from Seminole, are collected from over 180 delivery points. Such data, taken from January 1979 to the present, is a basis for hourly load profile forecasts and modeling peak demand.

2.4 Forecast Methodology

Seminole's Integrated Forecasting System consists of the following sub-models:

- (1) Residential Consumer Model
- (2) Appliance Model
- (3) Commercial/Industrial Consumer Model
- (4) Other Class Consumers Model
- (5) Residential Energy Usage Model
- (6) Commercial/Industrial Energy Usage Model
- (7) Other Class Energy Usage Model
- (8) Peak Demand Load Factor Model
- (9) Hourly Load Profiles and Load Management

Each model consists of ten sub-models because each Member system is modeled and forecast

separately. Individual Member model results are aggregated to derive the Seminole forecast. Figure

1 on the following page shows the Integrated Forecasting System.



Figure 1







2.4.1 Consumer Models

For each Member, annual consumers are a function of the Member's service area population, with a first-order auto-regressive correction used when necessary. The amount of new residential housing permits was found to be a significant variable in six of the Members' residential consumer models. Forecasts are benchmarked using 2008 estimated actual data. Seasonally adjusted monthly forecasts are developed from annual data. Expected new large commercial consumers are included.

Other consumer classes generally include irrigation, street and highway lighting, public buildings, and sales for resale, which represent less than 2 percent of Seminole's Members' total energy sales. A few Member systems include some of these classes in the commercial/industrial sector. For the others, annual consumer forecasts are projected using regression analysis against population, or a trending technique.

2.4.2 Appliance Model

The Appliance Model combines the results of the Residential Consumer Model with data from the Residential Appliance Survey to yield forecasts of space-heating and air-conditioning stock variables which are used in the Residential Energy Usage Model and the Peak Demand Load Factor Model. Annual forecasts of the shares for the following home types are produced: single-family, mobiles, and multi-family homes. Each home type is segregated into three age groups. Next, annual forecasts of space-conditioning saturations are created. Finally, the air-conditioning saturations and the space-heating saturations are combined with housing type share information, resulting in weather-sensitive stock variables for heating and cooling.

2.4.3 Energy Usage Model

The Residential Energy Usage Model is a combination of econometric and end-use methods.



For each Member system, monthly residential usage per consumer is a function of heating and cooling degree variables weighted with space-conditioning appliances, real price of electricity, and real per capita income. Forecasts are benchmarked against weather-normalized estimated energy in 2008, the last year of the analysis period. The usage per consumer forecast is multiplied by the consumer forecast to produce monthly residential energy sales forecasts.

For each Member system, monthly commercial/industrial usage per consumer is a function of heating and cooling degree variables, real price of electricity, real per capita income, total non-farm employment, and dummy variables to explain abrupt or external changes. A first order auto-regressive correction is used when necessary. Forecasts of energy usage per consumer are benchmarked to 2008 estimates, the last year of the historical period. Energy usage per consumer forecasts are combined with the consumer forecasts to produce monthly commercial/industrial energy sales forecasts. Expected new large commercial loads are included in the forecast.

Historical patterns of energy usage for other classes have been quite stable for most Members and usage is held constant for the forecast period. Trending methodology is used for the Members with growth in this sector.

2.4.4 Total Energy Sales and Energy Purchases

Residential, Commercial/Industrial, and Other classes energy sales forecasts are summed to create total retail energy sales forecasts for each Member system. Retail energy sales forecasts are converted to Member energy purchases from Seminole at the delivery point using historical averages of the ratio of calendar month purchases to retail billing cycle sales for each Member. Therefore, these adjustment factors represent both energy losses and billing cycle sales and calendar month purchases differences. The latter, as a function of weather and billing days, often changes erratically.



2.4.5 Peak Demand Load Factor Model

The Seminole peak demand forecast is derived after the Member monthly peak demands and hourly load forecasts have been created. Member peak demands are derived by combining the forecasts of monthly load factors with energy purchases from Seminole. Monthly peak demand load factors are a function of heating and cooling degree variables, precipitation, air-conditioning and space-heating saturations, and heating and cooling degree hours at the time of the Member's peak demand. Two seasonal equations for each Member system are developed: one for the winter months (November through March) and the other for the summer months (April through October). The forecasted monthly load factors are combined with the energy purchases from Seminole forecasts to produce forecasts of monthly peaks by Member.

2.4.6 Hourly Load Profiles

Hourly demand forecasts are created using an algorithm that contains the following inputs: normal monthly hourly profiles, maximum and minimum monthly demands, and energy. This algorithm produces monthly hourly load forecasts by Member. Seminole peak demands are derived by summing the Members' hourly loads and identifying the monthly coincident maximum demands.

2.4.7 Scenarios

In lieu of economic scenarios, Seminole creates a high and low population growth scenario in addition to the base population forecast. Because Seminole's system is primarily residential load, population is the primary driving force behind Seminole's load growth. Therefore, high and low population growth scenarios are developed for each Member system based on the BEBR's alternative scenarios.



3. FUEL REQUIREMENTS AND ENERGY SOURCES

Seminole's nuclear, coal, oil, and natural gas requirements for owned and future generating units are shown on Schedule 5 on the next page. Seminole's total system energy sources in GWh and percent for each fuel type are shown on Schedules 6.1 and 6.2, respectively, on the following pages.

Seminole has additional requirements for capacity in the 2016 and beyond time frame. Seminole has reflected capacity additions which are assumed to be from a portfolio of resources such as gas/oil, nuclear, and renewable resources.



				Fue	l Requirer	S nents For	chedule 5 Seminole	Generatin	g Resourc	es				
Fuel Requ	irements	Units	Act 2007	tual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Nucl	ear	Trillion BTU	1	1	1	1	1	1	1	1	1	9	20	23
Coa	al	1000 Tons	3830	3658	4334	4235	4180	4120	4145	4079	4105	5248	5581	5667
	Total	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
Dogidual	Steam	1000 BBL	0	0	0	0	0	0	0	U	0	0	0	0
Residual	сс	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	СТ		0	0	0	0	0	0	0	0	0	0	0	0
	Total	1000 BBL	58	46	49	48	47	46	47	46	46	59	62	63
D1 (11) (Steam	1000 BBL	41	41	49	48	47	46	47	46	46	59	62	63
Distillate	сс	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	1000 BBL	17	5	1	0	0	0	0	0	0	0	0	0
	Total	1000 MCF	7299	12242	21119	19124	19673	19805	20478	15690	17399	11222	10881	11916
Natural	Steam	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
Gas	cc	1000 MCF	4027	11609	18761	16002	17040	17000	18186	14221	15759	8779	8024	8043
	ст	1000 MCF	3272	633	2357	3122	2633	2804	2292	1469	1641	2443	2857	3873
NOTE: Above Totals	e fuel is for ex may not add	kisting and futu due to roundin	re-owned ger g.	erating resou	arces (excludi	ng purchased	power contra	cts).						



Schedule 6.1 Energy Sources (GWh)														
Energy	Sources	Units	Act 2007	tual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Inter-Regiona	l Interchange	GWh	0	0	0	0	0	0	0		0	0	0	0
Nuc	lear	GWh	119	273	225	124	116	309	296	417	383	1013	1903	2166
Co	10555	10998	10452	10271	10547	10606	10641	10743	13144	13625	13836			
Total GWh 40 629 0 0 0 0 0 0 54 21 0 0												0		
Steam GWh 0 629 0 0 0 0 54 21 0 0												0		
Residual	СС	GWh	19	0	0	0	0	0	0	0	0	0	0	0
	CT	GWh	21	0	0	0	0	0	0	0	0	0	0	0
	Total	GWh	1446	95	35	31	46	29	38	44	46	42	37	38
Distillate	Steam	GWh	500	24	29	28	28	27	28	27	27	35	37	37
Distillate	CC	GWh	878	2	0	0	0	0	1	0	0	0	0	0
	СТ	GWh	68	69	6	3	18	2	9	17	19	7	0	0
	Total	GWh	5477	5369	4781	4079	4832	4911	5656	3762	4067	2116	1 7 99	1941
Natural Car	Steam	GWh	560	1341	491	340	105	59	64	76	32	8	1	3
Ivatul al Gas	CC	GWh	4097	3796	3861	3153	3417	3629	4510	3190	3401	1837	1547	1594
	CT	GWh	820	232	430	587	1311	1223	1081	496	634	272	251	344
NUG GWh 0 0 0 0 0 0 0 0 0 0 0										0	0			
Renew	Renewables GWh 347 408 663 673 701 696 699 708 702 268 166													
Oth	1374	1979	2043	2059	2048	1315	1405	927	895	938				
Net Energy	Net Energy for Load GWh 17670 17329 18077 17343 17982 18556 19340 16878 17406 17966 18527 19085													
NOTE: Net inter	change and PEF	system purchas	es are include	ed under sour	ce fuel categ	ories.								

Totals may not add due to rounding.



Schedule 6.2 Energy Sources (Percent)														
Energy	7 Sources	Units	Act 2007	ual 2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Inter-Region	al Interchange	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Nu	ıclear	%	0.67%	1.58%	1.25%	0.72%	0.65%	1.66%	1.53%	2.47%	2.20%	5.64%	10.27%	11.35%
C	Coal	%	57.96%	60.91%	60.84%	60.26%	57.12%	56.84%	54.84%	63.04%	61.72%	73.16%	73.54%	72.50%
Total % 0.23% 3.63% 0.00% 0.0											0.00%			
Residual	Steam	%	0.00%	3.63%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.12%	0.00%	0.00%
IColuual	cc	%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	СГ	%	0.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Total	%	8.18%	0.55%	0.19%	0.18%	0.26%	0.16%	0.19%	0.26%	0.26%	0.23%	0.20%	0.20%
Distillato	Steam	%	2.83%	0.14%	0.16%	0.16%	0.15%	0.15%	0.14%	0.16%	0.16%	0.19%	0.20%	0.20%
Distillate	сс	%	4.97%	0.01%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
	СТ	%	0.38%	0.40%	0.03%	0.01%	0.10%	0.01%	0.05%	0.10%	0.11%	0.04%	0.00%	0.00%
	Total	%	31.00%	30.98%	26.45%	23.52%	26.87%	26.47%	29.25%	22.29%	23.36%	11.78%	9.71%	10.17%
Natural Car	Steam	%	3.17%	7.74%	2.71%	1.96%	0.58%	0.32%	0.33%	0.45%	0.18%	0.04%	0.01%	0.02%
Naturai Gas	сс	%	23.19%	21.91%	21.36%	18.18%	19.00%	19.56%	23.32%	18.90%	19.54%	10.22%	8.35%	8.35%
	СТ	%	4.64%	1.34%	2.38%	3.38%	7.29%	6.59%	5.59%	2.94%	3.64%	1.51%	1.36%	1.80%
N	UG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
Rene	wables	2.35%	3.67%	3.91%	3.74%	3.78%	3.60%	4.14%	4.07%	3.91%	1.45%	0.87%		
O	ther	0.00%	7.60%	11.41%	11.36%	11.10%	10.59%	7.79%	8.07%	5.16%	4.83%	4.91%		
Net Energ	Net Energy for Load % 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%													
NOTE: Net int	erchange and PEF	system purchas	es are include	d under sour	ce fuel categ	ories.								

Totals may not add due to rounding.



4. FORECAST OF FACILITIES REQUIREMENTS

Seminole's load is located primarily within three control areas: PEF, FPL, and Seminole Direct Serve (SDS). Seminole is obligated to serve all loads in the FPL and SDS areas, and load up to a specified capacity commitment level in the PEF area during the term of the PEF Partial Requirements Contract. Seminole must also supply appropriate reserves for the load it is responsible for serving. Seminole meets its total committed load obligation using a combination of owned generation and purchased capacity resources. Member loads in the PEF control area in excess of the specified PEF capacity commitment level are served through PR purchases from PEF. PEF has the contractual obligation to plan to meet these requirements.

Seminole requires approximately 1,600 MW of new generation by the summer of 2016 to replace expiring power purchase contracts and serve its Members' load growth. Seminole is planning to meet a portion of such capacity needs in that time frame by constructing a new 750 MW pulverized coal unit at SGS. Seminole's April 2004 all-source RFP for base load capacity determined that SGS Unit 3 was the most economical alternative. Seminole began the permitting and need petition process in March 2006 with the commercial operation date originally scheduled for May 2012. Seminole received a determination of need approval from the Florida Public Service Commission in August 2006, and the required land use approval was issued by the State of Florida's Power Plant Siting Board in December 2006.

Certification under the Florida Electrical Power Plant Siting Act was deemed complete by the Florida Department of Environmental Protection (FDEP), and final approval was expected in April 2007. However, in August 2007, the FDEP issued a Final Order denying Seminole's application for certification based on procedural issues associated with approval of facilities under the Power Plant



Siting Act. Seminole appealed the FDEP's decision through the Fifth District Court of Appeal, and Final Certification was issued on August 18, 2008. The FDEP issued a final Prevention of Significant Deterioration permit on April 3, 2008. This permit is now subject to additional third party appeals which have delayed the in-service date of SGS Unit 3 until May 2016.

Seminole's capacity expansion plan also currently includes the construction of three 170 MW class combustion turbine units at a new site in Gilchrist County. These three units are scheduled to enter service in 2015.

In addition, Seminole is currently in discussions with PEF regarding an ownership share of the proposed Levy County nuclear units currently scheduled to enter service in 2016 and 2017, respectively.

Seminole has a FERC-filed qualifying facility (QF) program which complies with the requirements of the Public Utility Regulatory Policies Act (PURPA). When competitively bidding for power supplies, Seminole continues to solicit proposals from QF and renewable energy facilities. Seminole also evaluates all unsolicited QF and renewable energy proposals for applicability to the cooperative's needs. As a result of its market interactions, Seminole has signed several purchased power contracts for renewable energy. In 1999, Seminole entered into a power purchase agreement with a renewable energy facility, Lee County Resource Recovery, for 35 MW of capacity (increased to 55 MW (in November 2007). More recently, Seminole has signed contracts with Telogia Power, LLC, a 12.5 MW biomass (wood waste) burning facility in Liberty County; Bio-Energy Partners, a 7 MW landfill methane gas burning facility in Broward County, Landfill Energy Systems, with 15 MW total capacity coming from two landfill gas-to-energy facilities, and Timberline Energy, with 4.8 MW total capacity coming from two landfill gas-to-energy facilities in



Hernando and Sarasota Counties. These renewable resources are projected to serve approximately 4% of Seminole's total energy requirements in 2009.

Schedules 7.1, 7.2, and 8 include the addition of approximately 1,700 MW of capacity by 2019 at SGS, Gilchrist, and yet-unspecified sites. Such capacity is needed to replace expiring purchased power contracts and/or to maintain Seminole's reliability criteria. These needs are specified for planning purposes and represent the most economical mix of resource types for Seminole's needs.

Future economic studies, in conjunction with Seminole's competitive bidding process, will allow Seminole to further optimize the amount, type, and timing of such capacity. The units at unknown sites are shown for purposes of identifying capacity need, and in consideration of Seminole's competitive bidding process and/or bilateral discussions with existing power suppliers for purchased alternatives, do not represent at this time a commitment for construction by Seminole.



	Schedule 7.1 Forecast of Capacity, Demand and Scheduled Maintenance at Time of Summer Peak														
Vear	Total Installed	Firm Capacity Import (MW)			Firm Capacity	QFs	Capacity Available (MW)		System Firm Summer Peak Demand (MW)		Reserve Margin Before		Scheduled Maintenance	Reserve Margin After	
	Capacity (MW)	PR and FR	Other Purchases	Total	Export (MW)	(MW)	Total	Less PR and FR	Total	Obligation	MW	% of Pk	(MW)	MW	% of Pk
2009	2,089	333	2,155	2,488	0	0	4,577	4,244	3,932	3,599	645	17.9%	0	645	17.9%
2010	2,099	362	2,080	2,442	0	0	4,541	4,179	3,787	3,425	754	22.0%	0	754	22.0%
2011	2,099	377	2,080	2,457	0	0	4,556	4,179	3,946	3,569	610	17.1%	0	610	17.1%
2012	2,111	377	2,230	2,607	ο	0	4,718	4,341	4,073	3,696	645	17.5%	0	645	17.5%
2013	2,111	387	2,354	2,741	0	0	4,852	4,465	4,270	3,883	582	15.0%	0	582	15.0%
2014	2,152	115	1,993	2,108	0	0	4,260	4,145	3,719	3,604	541	15.0%	0	541	15.0%
2015	2,152	119	2,121	2,240	0	0	4,392	4,273	3,835	3,716	557	15.0%	0	557	15.0%
2016	3,662	122	792	914	0	0	4,576	4,454	3,958	3,836	618	16.1%	0	618	16.1%
2017	3,789	125	760	885	0	0	4,674	4,549	4,081	3,956	593	15.0%	0	593	15.0%
2018	3,789	128	896	1,024	0	0	4,813	4,685	4,202	4,074	611	15.0%	1	611	15.0%

NOTES: 1. Total installed capacity and the associated reserve margins are based on Seminole's current base case plan and are based on a 15% reserve margin criterion.

2. Firm Capacity Import/Other Purchases include a firm purchase power contract from Hardee Power Partners, through December 31, 2012, for 287 MW of first-call capacity from the Hardee Power Station to back up 1240 MW of Seminole Generating Station and Crystal River Unit 3.

3. Firm Capacity Import/PR and FR includes partial requirements and full requirements purchases.

4. Seminole's firm obligation demand does not include PR and FR purchases.

5. Seminole is not responsible for supplying reserves for FR and PR purchases. Percent reserves are calculated at 15% of Seminole's obligation and include any surplus capacity.







	Schedule 7.2 Forecast of Capacity, Demand and Scheduled Maintenance at Time of Winter Peak														
Vegr	'Total Installed	Firm Capacity Import (MW)			Firm Capacity	OFs	Capacity Available (MW)		System Firm Summer Peak Demand (MW)		Reserve Margin Before		Scheduled	Reserve Margin After	
	Capacity (MW)	PR and FR	Other Purchases	Total	Export (MW)	(MW)	Total	Less PR and FR	Total	Obligation	Mau MW	% of Pk	Maintenance (MW)	Man	ntenance % of Pk
2009/10	2,196	794	2,345	3,139	0	0	5,335	4,541	4,380	3,586	955	26.6%	0	955	26.6%
2010/11	2,206	809	2,345	3,154	0	0	5,360	4,551	4,489	3,680	871	23. 7 %	0	871	23.7%
2011/12	2,218	823	2,495	3,318	0	0	5,536	4,713	4,631	3,808	905	23.8%	0	905	23.8%
2012/13	2,218	803	2,584	3,387	0	U	5,605	4,802	4,784	3,981	821	20.6%	0	821	20.6%
2013/14	2,259	108	3,134	3,242	0	0	5,501	5,393	4,290	4,182	1,211	29.0%	0	1,211	29.0%
2014/15	2,259	108	2,707	2,815	0	0	5,074	4,966	4,426	4,318	648	15.0%	0	648	15.0%
2015/16	2,979	112	2,145	2,257	0	0	5,236	5,124	4,568	4,456	668	15.0%	0	668	15.0%
2016/17	3,860	114	1,431	1,545	0	0	5,405	5,291	4,715	4,601	690	15.0%	0	690	15.0%
2017/18	3,991	118	1,463	1,581	0	0	5,572	5,454	4,861	4,743	711	15.0%	0	711	15.0%
2018/19	3,991	120	1,629	1,749	0	0	5,740	5,620	5,007	4,887	733	15.0%	0	733	15.0%

NOTES: 1. Total installed capacity and the associated reserve margins are based on Seminole's current base case plan and are based on a 15% reserve margin criterion.

2. Firm Capacity Import/Other Purchases include a firm purchase power contract from Hardee Power Partners, through December 31, 2012, for 356 MW of first-call capacity from the Hardee Power Station to back up 1240 MW of Seminole Generating Station and Crystal River Unit 3.

3. Firm Capacity Import/PR and FR includes partial requirements and full requirements purchases.

4. Seminole's firm obligation demand does not include PR and FR purchases.

5. Seminole is not responsible for supplying reserves for FR and PR purchases. Percent reserves are calculated at 15% of Seminole's obligation and include any surplus capacity.







Schedule 8 Planned and Prospective Generating Facility Additions and Changes														
Fuel Transportation Const. Start Comm. In- Expected Max Summer W							Winter	6)4.4						
r failt fyame	UIIII INU	Location	Olat Type	Pri	Alt	Pri	Alt	Date	Service Date	Date	Nameplate	MW	MW	A
Seminole	1	Putnam	ST	BIT		RR		(1)	4/2010	Unk		10	10	Α
Crystal River	3	Citrus	ST	NUC		ТК		(1)	12/2011	Unk		2	2	Α
Seminole	2	Putnam	ST	BIT		RR		(1)	12/2011	Unk		10	10	Α
Gilchrist	1	Gilchrist	CT	NG	DFO	PL	ТК	5/2010	12/2015	Unk	180	158	180	Р
Gilchrist	2	Gilchrist	CT	NG	DFO	PL	ТК	5/2010	12/2015	Unk	180	158	180	Р
Gilchrist	3	Gilchrist	CT	NG	DFO	PL	ТК	5/2010	12/2015	Unk	180	158	180	Р
Unnamed CT	1	Unk	СТ	NG	DFO	PL	ТК	(3)	12/2015	Unk	180	158	180	Р
Seminole	3	Putnam	ST	BIT	DFO	PL	ТК	3/2012	5/2016	Unk	750	750	750	Р
Levy (2)	2	Levy	ST	NUC		TK		(2), (3)	5/2016	Unk		128	131	Р
Levy (2)	1	Levy	ST	NUC		ТК		(2), (3)	5/2017	Unk		127	131	Р
Unnamed CT	2	Unk	CT	NG	DFO	PL	TK	(3)	5/2019	Unk	180	158	180	Р
Abbreviations:	Abbreviations: Unk Unknown P Planned, but not under construction A Generating unit capability increased (re-rated or ro-licensed) P Planned, but not under construction													
NOTES:	 Existing resources whose capacity rating is expected to increase. SECI in discussions with PEF regarding an ownership share of the proposed Levy County nuclear units. Future resource which may be existing or new as determined by future Request for Proposal results 													



5. OTHER PLANNING ASSUMPTIONS AND INFORMATION

5.1 Plan Economics

Power supply alternatives are compared against a base case scenario which is developed using the most recent load forecast, fuel forecast, operational cost assumptions, and financial assumptions. Various power supply options are evaluated to determine the overall effect on the present worth of revenue requirements (PWRR). All other things being equal, the option with the lowest long-term PWRR is normally selected. Sensitivity analyses are done to test how robust the selected generation option is when various parameters change from the base study assumptions (e.g., load forecast, fuel price, and capital costs of new generation).

5.2 Fuel Price Forecast

5.2.1 Coal

Spot and long term market commodity prices for coal (at the mine) and transportation rates have shown increased volatility in recent years. This condition is expected to continue into the future, as supply, transportation and world energy markets affect US coal prices. The underlying value of coal at the mine will continue to rise with increased coal demand and direct mining costs. Additional coal delivered price increases and volatility will come from the cost of railcars, handling service contracts and transportation capacity impacts. As long-term rail transportation contracts come up for renewals, the railroads have placed upward pressure on delivered coal costs to increase revenues and support the expansion of new track capacity and related facilities..

5.2.2 Oil

Steady growth in oil demand, reflected in a continuation of tight supplies, will continue to result in high oil prices in the future. Due to volatility in the world energy market for crude oil and



refined products, local markets for fuel oils will continue to transmit volatility to the energy market. Additional pressure to market pricing will be applied by governmental rules and laws for improved fuel qualities and the use of only ultra-low sulfur oil required by 2013.

5.2.3 Natural Gas

Continued extreme price volatility is expected. While natural gas prices have been forecasted to decline over the next few years and then increase over the long term, price volatility will be significantly impacted by weather related events and world market conditions. Rising demand for natural gas in all sectors of industry cannot be met solely by increasing domestic natural gas production. Thus, there will be additional pressure on imports of liquefied natural gas (LNG) to meet the future requirement for natural gas. Supply and demand are expected to remain in balance over the long term, but short-term imbalances will have a significant impact on prices. The natural gas market prices have been linked to world energy markets, which could be supported by an international gas cartel in the future.

5.2.4 Coal/Gas Price Differential

Seminole's underlying fuel price forecast assumes that a significant spread will continue to exist within the forecast period and beyond between coal and gas. This coal/gas price differential is the primary economic driver for Seminole's strategy to add coal capacity to the generation mix in 2016 to meet base load needs. Seminole's base fuel price forecast for this Ten-Year Site Plan takes into account future carbon emission initiatives, such as taxation or emission credits, that will impact the market prices for all fuels.

If legislation that penalizes carbon emissions is enacted in future years, Seminole's costs to use all fossil fuels will rise since all fossil fuels emit carbon dioxide when burned. Seminole has



performed sensitivities which suggest that the forecast coal/gas price differential is significant enough to retain coal as the economically favored base load fuel option even in conjunction with a moderate carbon emissions cost. In the event that carbon emissions legislation is passed, the market value and associated price of natural gas in the existing unregulated commodity market may rise to compensate to some degree for the penalty imposed on coal, the competing fuel.

5.3 Modeling of Generation Unit Performance

Existing units are modeled with forced outage rates and heat rates for the near term based on recent historical data. The long term rates are based on a weighting of industry average data and expected or manufacturers' design performance data.

5.4 Financial Assumptions

Expansion plans are evaluated based on Seminole's forecast of market-based loan fund rates.

5.5 Generation Resource Planning Process

Seminole's primary long-range planning goal is to develop the most cost-effective way to meet its Members' load requirements while maintaining high system reliability. Seminole's optimization process for resource selection is based primarily on total revenue requirements. For a not-for-profit cooperative, revenue requirements translate directly into rates to our Member distribution cooperatives. The plan with the lowest revenue requirements is generally selected, assuming that other factors such as reliability impact, initial rate impact, and strategic considerations are neutral. Seminole also recognizes that planning assumptions change over time so planning decisions must be robust and are, therefore, tested over a variety of sensitivities. A flow chart of Seminole's planning process is shown in Figure 4.

The impact of DSM and conservation in Seminole's planning process is included in the load



forecast. Given the nature of Seminole's power supply arrangements, reduction in peak demand does not usually affect the operation of Seminole's generating resources in the PEF area, but instead reduces the amount of PR purchases required from PEF. However, in Seminole's direct serve area and the FPL area, DSM reduces peak demand and Seminole resource needs to meet the demand.

Seminole considers cost effective energy efficiency and conservation resources as its first priority resource option in meeting future expansion needs. Seminole has committed to work jointly with its Members to assess the feasibility and effectiveness of demand-side resources.

5.6 Reliability Criteria

The total amount of generating capacity and reserves required by Seminole is affected by Seminole's load forecast and its reliability criteria. Reserves serve two primary purposes: to provide replacement power during generator outages and to account for load forecast uncertainty. Seminole has two principal reliability criteria: (1) a minimum reserve margin of 15% during the peak season, and (2) a 1% expected unserved energy (EUE) limitation. Both the minimum reserve margin and EUE criteria serve to ensure that Seminole has adequate generating capacity to provide reliable service to its Members and to limit Seminole's reliance on interconnected neighboring systems for emergency purchases.

In addition to these two primary reserve criteria, Seminole also adheres to an additional criterion to ensure that it maintains winter reserve capacity to cover weather sensitivity during the winter season. This additional criterion was implemented due to the amount of Seminole's weather-sensitive load in conjunction with the restrictions on the use of Hardee Power Station capacity through the winter season of 2012.



Figure 4

Resource Planning Process





5.7 Strategic Concerns

In the current rapidly changing utility industry, strategic and risk related issues are becoming increasingly important and will continue to play a companion role to economics in Seminole's power supply planning decision process.

Seminole values resource flexibility as a hedge against a variety of risks, as evidenced by a generation portfolio which includes as much purchased capacity as owned capacity. Owned and/or other long-term purchased resources contribute stability to a power supply plan while short-term purchase arrangements add flexibility. For purchased power agreements, system-type capacity versus unit-specific power is also a consideration. System capacity, which is sourced from many generating units, is more reliable, and agreements can be structured to reduce Seminole's reserve requirements. Flexibility in fuel supply is another significant strategic concern. A portfolio that depends on diverse fuel requirements is better protected against extreme price fluctuations, supply interruptions, and transportation instability. Seminole believes that the existing and future diversity in its power supply plan has significant strategic value, leaving Seminole in a good position to respond to market and industry changes.

Seminole's decision to add a third coal unit at SGS is for reliability and economic reasons, but also to avoid an over-reliance on natural gas for Seminole's future energy needs. The addition of the third coal unit is consistent with Seminole's fuel and portfolio diversity goals.

The ongoing debate over the need to regulate carbon emissions has introduced a new risk for electric utilities – the risk that the most cost-effective fuels and associated technologies under current environmental regulations could change via new federal or state emissions rules. Using the best available information, Seminole has addressed this issue through its evaluation of a range of



scenarios to assess what constitutes the best generation plan to ensure adequate and competitively priced electric service to its Members.

5.8 Procurement of Supply-side Resources

Seminole plans to continue to use its all-source RFP process in conjunction with the evaluation of self-build alternatives, as the primary means of making decision on future power supply needs. In its purchased power bids, Seminole solicits proposals from utilities, independent power producers, QFs, renewable energy providers, and power marketers. Options which are proposed through the RFP process are compared to Seminole's self-build alternatives. Seminole's evaluation among its options includes an assessment of life cycle cost, reliability, strategic and risk elements.

5.9 Transmission Plans

The following table lists all 69 kV and above projects for new, upgraded, or reconfigured transmission facilities planned by Seminole over the ten-year planning horizon that are required for new generation facilities.

Status	Lin	e Terminals	Circuits	Line	Commercial	Nominal	Capacity (MVA)	
	From	То	Circuits	Miles	In-Service Date	Voltage (kV)		
Upgrade	Seminole Plant	Silver Springs N	2	49.8	2016	230	1139	
New	Gilchrist Plant	lchrist Gilchrist East Plant Switching Station		10	2015	230	1139	

5.9.1 Transmission Facilities for Seminole Generating Station Expansion

In May 2016, Seminole plans to add a third coal-fired generating unit at SGS with a nominal output of 750 MW. The following substation upgrades would be required for the addition of SGS



Unit 3:

- Upgrade the fault duty of all breakers at SGS to 63 kA.
- Upgrade SGS/Silver Springs North circuit #1 and SGS/Silver Springs North circuit

#2 line terminals at SGS to 3000 Amps.

• Upgrade the SGS/Silver Springs North circuit #1 and SGS/Silver Springs North circuit #2 line terminals at the Silver Springs North switchyard to 3000 Amps.

5.9.2 Transmission Facilities for Gilchrist Generating Station

By December 2015, Seminole plans to construct three 170 MW class gas-fired combustion turbine units at a new site in Gilchrist County. The following transmission system additions would be required for the addition of the Gilchrist units:

- Construction of a new Gilchrist East switching station along the existing PEF Ft. White – Newberry 230 kV transmission line.
- Construction of two new 230 kV circuits (rated at 3000 Amps), ten miles in length apiece, to connect the Gilchrist generating station to the new Gilchrist East switching station.



	Schedule 9 Status Report and Specifications of Proposed Generating Facilities						
1	Plant Name & Unit Number	Gilchrist Generating Station Unit Nos. 1 – 3					
2	Capacity a. Summer (MW): b. Winter (MW):	158 (each) 170 (each)					
3	Technology Type:	GE 7FA Combustion Turbine					
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	May 2010 December 2015					
5	Fuel a. Primary fuel: b. Alternate fuel:	Natural Gas #2 Oil					
6	Air Pollution Control Strategy	Dry Low NOx Burner					
7	Cooling Method:	Air					
8	Total Site Area:	Approximately 530 acres					
9	Construction Status:	Planned					
10	Certification Status:	Planned					
11	Status With Federal Agencies	N/A					
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	0.5 5.0 95 85% 11,800 BTu/KWh (HHV)					
13	Projected Unit Financial Data (\$2008) Book Life (Years): Total Installed Cost (In-Service Year \$/kW): Direct Construction Cost (\$/kW): AFUDC Amount (\$/kW): Escalation (\$/kW): Fixed O&M (\$/kW-Yr): Variable O&M (\$/MWH): K Factor:	30 1240 1150 90 Included in values above 4.08 1.63 N/A					



	Schedule 9 Status Report and Specifications of Proposed Generating Facilities						
1	Plant Name & Unit Number	Seminole Generating Station Unit No. 3					
2	Capacity a. Summer (MW): b. Winter (MW):	750 750					
3	Technology Type:	Pulverized Coal					
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	March 2012 May 2016					
5	Fuel a. Primary fuel: b. Alternate fuel:	Coal N/A					
6	Air Pollution Control Strategy	Precipitator, SCR, Wet Scrubber, Wet ESP, Combustion Controls					
7	Cooling Method:	Cooling towers					
8	Total Site Area:	Approximately 172.8 acres					
9	Construction Status:	Planned					
10	Certification Status:	Certification granted by FDEP on August 18, 2008					
11	Status With Federal Agencies						
12	Projected Unit Performance Data Planned Outage Factor (POF): Forced Outage Factor (FOF): Equivalent Availability Factor (EAF): Resulting Capacity Factor (%): Average Net Operating Heat Rate (ANOHR):	7.0 4.0 89 85% 9,610 BTu/KWh (HHV)					
13	Projected Unit Financial Data (\$2008) Book Life (Years): Total Installed Cost (In-Service Year S/kW): Direct Construction Cost (\$/kW): AFUDC Amount (\$/kW): Escalation (\$/kW): Fixed O&M (\$/kW-Yr): Variable O&M (\$/MWH): K Factor:	30 4466 3622 844 Included in values above 25.84 0.72 N/A					



	Schedule 10 Status Report and Specifications of Proposed Associated Transmission Lines					
1	Point of Origin and Termination:	Originating at SECI's Gilchrist plant site; terminating at SECI's Gilchrist East Switching Station				
2	Number of Lines:	Тwo				
3	Right-of-Way	To be determined				
4	Line Length:	10 miles each				
5	Voltage:	230 KV				
6	Anticipated Construction Timing:	December 1, 2012 .				
7	Anticipated Capital Investment:	\$24 million (total)				
8	Substation:	The Gilchrist Interconnection will require a new Seminole Gilchrist East switching station on the PEF Ft. White – Newberry 230 kV transmission line				
9	Participation with Other Utilities:	N/A				



6. ENVIRONMENTAL AND LAND USE INFORMATION

6.1 Seminole Generating Station (SGS) - Putnam County, Florida

SGS is located in a rural unincorporated area of Putnam County approximately 5 miles north of the City of Palatka. The site is 1,978 acres bordered by U.S. 17 on the west, and is primarily undeveloped land on the other sides. The site was certified in 1979 (PA78-10) for two 650 MW class coal fired electric generating units, SGS Units 1 & 2. On March 9, 2006, Seminole submitted a supplemental site certification application pursuant to the Florida Electrical Power Plant Siting Act for SGS Unit 3, a 750 MW coal fired electrical generating unit to be located adjacent to the existing units. SGS Unit 3 was originally scheduled to go into commercial operation in May 2012. The project received Florida Public Service Commission approval for the need on August 7, 2006 and final State Land Use approval from the Power Plant Siting Board on December 5, 2006. Final Certification was expected in April 2007. However, on August 20, 2007, the FDEP issued a Final Order denying Seminole's application for certification based on procedural issues associated with approval of facilities under the Power Site Siting Act. Seminole appealed the FDEP's decision through the Fifth District Court of Appeal, and Final Certification was issued on August 18, 2008. The FDEP issued a final Prevention of Significant Deterioration permit on April 3, 2008. This permit is now subject to additional third party appeals which have delayed the in-service date of SGS Unit 3 until May 2016.

A significant portion of the site has previously been cleared of vegetation and graded to accommodate Units 1 and 2. Units 1 and 2 went into commercial operation in February and December of 1984, respectively. The area around the SGS site includes mowed and maintained grass fields and upland pine flatwoods. Areas further away from the existing units include live oak



hammocks, wetland conifer forest, wetland hardwood/conifer forest, and freshwater marsh. A small land parcel located on the St. Johns River is the site for a water intake structure, wastewater discharge structure, and pumping station to supply the facility with cooling and service water.

The primary water uses for SGS Unit 3 will be for cooling water, wet flue gas desulfurization makeup, steam cycle makeup, and process service water. Cooling and service water will be pumped from the St. Johns River and groundwater supplied from on-site wells will be for steam cycle makeup and potable use. The site is not located in an area designated as a Priority Water Resource Caution Area by the St. Johns River Water Management District.

State-listed species that are likely to occur on the site include the bald eagle, the indigo snake, and the gopher tortoise. No known listed plants occur on the site. The site has not been listed as a natural resource of regional significance by the regional planning council.

SGS Unit 3 will impact one small shrub wetland area and a portion of forested wetlands and wetland prairie associated with a new pipeline supplying water from the river. Mitigation for these impacts will be in accordance with the requirements of the FDEP.

The local government future land use for the area where the existing units and proposed SGS Unit 3 are located is designated as industrial use.

Water conservation measures that will be incorporated into the design of SGS Unit 3 include the collection, treatment and recycling of plant process wastewater streams from SGS Unit 3 as well as Units 1 and 2. This wastewater reuse will minimize groundwater and service water uses. Small amounts of recirculated condenser cooling water (cooling tower blowdown) will be withdrawn from the closed cycle cooling tower and discharged to the St. Johns River. Site stormwater will be reused to the maximum extent possible and any not reused will be treated in wet detention ponds and



released to onsite wetlands.

The primary fuel for SGS Unit 3 will be bituminous coal. No. 2 (distillate) fuel oil will be used for startups and flame stabilization. Coal is currently, and in the future will be, delivered to the site by unit trains and fuel oil is delivered by truck. Coal for SGS Unit 3 will be stored at the site, which requires additional area and equipment to meet the requirements of the third unit. Coal pile stormwater will be collected, treated, and reused. An additional No. 2 fuel oil storage tank will be installed with the third unit. The plant maintains sufficient secondary containment for all storage tanks.

SGS Unit 3 is designed so that solid waste from the Flue Gas Desulfurization (FGD) system will be treated to produce wallboard grade synthetic gypsum and sold for use in producing wallboard. Flyash will be reused as an additive for cement and concrete. Any solid wastes that are not recycled will be stored in a double lined landfill equipped with leachate collection or transported to a permitted landfill facility.

SGS Unit 3 will utilize advanced supercritical coal boiler technology with state of the art emission controls meeting the EPA requirement for Best Available Control Technology. Air emission control systems will include Selective Catalytic Reduction (SCR) for NOx control, wet FGD systems for SO2 control, dry electrostatic precipitators (ESP- the collection and removal of fine particulate matter), and a wet ESP for acid gas removal. These technologies will also remove more than 90% of the mercury contained in the flue gas.

Noise emissions during operation of SGS Unit 3 will not result in sound levels in excess of the Putnam County Noise Control Ordinance. Intermittent noise sources during startup, testing, maintenance, and emergency conditions may result in elevated noise levels for short durations but



are not expected to cause a nuisance.

Additional information concerning SGS Unit 3 can be found in the "Site Certification Application and Environmental Analysis, Seminole Generating Station Unit 3" submitted to the FDEP.

6.2 Midulla Generating Station (MGS) – Hardee County, Florida

MGS is located in Hardee and Polk Counties about nine miles northwest of Wauchula, 16 miles south-southwest of Bartow, and 40 miles east of Tampa Bay. The site is bordered by County Road 663 on the east, CF Industries on the south, and Mosaic, Inc. on the north and west. Payne Creek flows along the sites south and southwestern borders. The site was originally strip-mined for phosphate and was reclaimed as pine flatwoods, improved pasture, and a cooling reservoir with a marsh littoral zone. A more detailed description of environmental and land use is available in the site certification application PA-89-25SA.

Seminole modified its site certification to construct 310 MW of combustion turbine peaking units at the MGS site. These units began commercial operation in December 2006.

6.3 Gilchrist Generating Station Site – Gilchrist County, Florida

The Gilchrist Generating Station site is approximately 530 acres in size. The site is located in the central portion of Gilchrist County, approximately 8 miles north of the City of Trenton. Much of the site has been used for silviculture (pine plantation) and consists of large tracts of planted longleaf and slash pine communities. Few natural upland communities remain. There exist large tracts that have been recently harvested, leaving xeric oak and pine remnants. A few wetland communities remain on the east side of the site with relatively minor disturbances due to adjacent silvicultural activities.

