

Ten Year Site Plan 2008 - 2017 (Detail as of December 31, 2007) April 1, 2008

OCCHEST SCHOOL CALL



## Ten Year Site Plan

2008 - 2017 (Detail as of December 31, 2007) April 1, 2008

> Submitted To: State of Florida Public Service Commission



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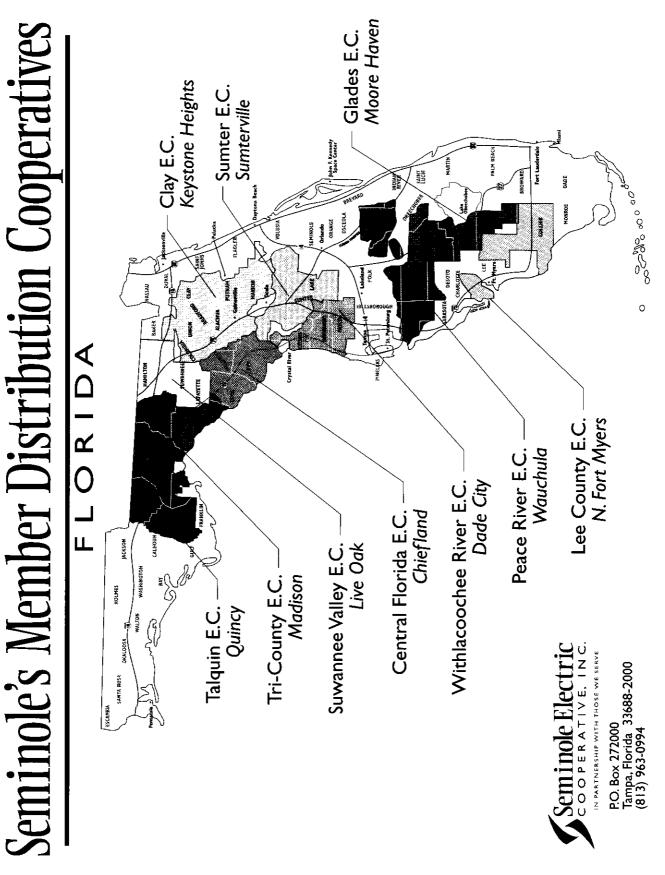


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#### 1. DESCRIPTION OF EXISTING FACILITIES

#### 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 Members.

The Seminole Member Cooperatives (Members) are as follows:

- 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



contracts with FPL and PEF for network-type firm transmission service for its Member loads which connect to those transmission areas.

#### 1.3 Purchased Power Resources

#### 1.3.1 Utilities and Independent Power Producers.

Seminole's capacity portfolio currently includes the following firm purchased power agreements (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 50MW of firm system baseload capacity from December 2007 through
     December 2008, 125 MW from January 2009 to December 2009, and 150 MW from
     January 2012 to December 2013.
  - PEF Winter Seasonal Peaking 600 MW of firm winter seasonal peaking capacity
     from January 2014 through December 2020.
  - 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 2007 was 735 MW winter and 492 MW summer.

- PEF Virtual Delivery Point Additional 150 MW of requirements load following service beginning January 2010 and increasing and/or decreasing with Seminole Member load in the FPL area through July 2020.
- City of Gainesville Full requirements service for a specified delivery point (approximate 19 MW peak demand in 2007) with certain notice provisions for termination beyond 2012.
- Reliant Energy Florida, LLC 364 MW firm peaking capacity from December 2008 to
   December 2009, increasing to 546 MW from December 2009 through May 2014.
- Oleander Power Project, L.P. (a subsidiary of Southern Power Company; previously a subsidiary of Constellation Energy Group) - 546 MW firm peaking capacity thru December 2015.
- 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.
- Bear Energy 130 MW of capacity, through December 15, 2008, from a coal-fired



facility in Hernando County.

#### 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 purchases 91 MW of renewable capacity from the following sources:

- Lee County Resource Recovery 55 MW of firm waste-to-energy capacity through July 2020.
- Telogia Power, LLC 12.5 MW of firm capacity from a biomass (wood and paper waste)
  facility located in Liberty County. Due to a proposed expansion of the facility, the
  capacity amount will increase to 32.5 MW in April 2010 and continues at that level
  through November 2023.
- 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 to be constructed in Hernando County, Florida. The contract extends through March 2020.



	·			Existin	g Gene		Schedu Facilitie		f Decemi	per 31, 200	7		
Plant Unit	Location	Location	Unit	Fı	ıel	Fu Transpo		Alt Fuel	Com In-Svc	Expected Retirement	Gen. Max Nameplate	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	CC	NG	DFO	PL	TK	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
Abbreviations: Unit Type Unk - Unknown N/A - Not applicable ST - Steam Turbine, including nuclear CC - Combined Cycle CT - Combustion				cable ine, r	Fuel Type  BIT - Bituminous Coal  NG - Natural Gas  NUC - Nuclear  PC - Petroleum Coke  DFO - No. 2 Diesel Fuel Oil					Fuel Transpo PL – Pipelin RR – Railro TK – Truck	е		
Note:		Turbine MGS Units	4-8 wir	nter net ca	pability t	o increase	to 310 N	(W by 1	2/2008	<u> </u>	·		



#### Schedule 1.2 Transmission Interconnections with Other Utilities Interconnection Voltage (kV) Location **FPL** 230 Rice **FPL** 230 Rice **FPL** 230 SGS **FPL** 230 SGS **FPL** 230 Charlotte **TECO** 230 Hardee Sub Hardee Power Partners 230 Hardee Sub PEF 230 Vandolah **JEA** 230 Firestone Tie Point City of Ocala 230 Ocala #2 Tie Point **PEF** 230 Martin West Tie Point PEF 230 Silver Springs Tie Point PEF 230 Silver Springs PEF 230 Dearmin Tie Point

Note: This table describes physical facility interconnections, which do not necessarily constitute contractual interconnections for purposes of transmission service or interconnections between control areas.



#### 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 does promote its Members' involvement in DSM through wholesale rate signals and load management generator programs.

#### 1.4.1 Seminole's Member Programs

The DSM offerings by Seminole's Members include residential load control, distribution system voltage reduction, and contractually interruptible load these programs represent a maximum load reduction capability of 140 MW. Energy conservation efforts include consumer awareness programs, energy audits, energy surveys, time-of-use rates, interruptible rates, lighting conversion programs, compact florescent light programs, and low interest energy conservation loans. Currently one member offers consumer rebates for increased ceiling insulation, SEER 14 or higher heat pumps, and solar water heating. Another form of energy conservation is the Members' distribution line loss reduction initiatives. Seminole's members have made significant investments in their distribution system to reduce line losses. Average distribution line losses on the Seminole system have decreased from 7.0 percent in 1995 to 4.9 percent in 2006. Finally, the Members have 10 residential solar photovoltaic systems with more pending.

#### 1.4.2 Seminole's DSM Programs

Seminole's load management generator programs allow 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. This program represents a maximum load reduction capability of 108 MW.

Seminole coordinates the Members' residential load control program which reduces 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. While reflected in Seminole's load forecast, the value of energy conservation cannot be directly identified because of the difficulty in measuring the impact of the diverse programs of Seminole's Members.



## 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 period of 1997-2006, Seminole's residential customer growth rate was 3.4 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. Also, 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

Seminole's growth rates for consumers, energy, and peak demand have been higher than those for Florida as a whole during the past decade. This pattern is expected to continue through 2009. However, beginning in 2010, Seminole will only serve a portion of LCEC's load requirements 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

Between 1997 and 2006, residential usage per consumer in Seminole Members' service area increased at an average annual rate of 1.5 percent. Growth in average usage is consistent with Seminole's Residential Appliance Survey results, which show steady increases in appliance saturations and larger homes during the last decade. Survey results reveal growth in not only traditional appliance loads, but also in new loads such as home computers and other electronic equipment.



The following table summarizes survey results for 1994 and 2005 (Seminole's latest survey).

During this period, larger homes were built and appliance saturations steadily increased.

Homes and Electric Ap	pliance 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 Cooperative, Inc., 1	994 and 2005

Historically, electricity prices in nominal terms steadily declined until 2001, after which point nominal prices began to rise. More importantly, real prices (adjusted for inflation) also began to rise and then level off. Seminole's current forecast of energy usage per consumer reflects a flat real price of electricity. It is anticipated that future forecasts of energy usage per consumer may reflect a more levelized real price of electricity.

Residential energy usage per consumer on the Seminole system is expected to grow at an annual rate of 0.09 percent through 2017. The trend of larger homes and increases in electric



appliance saturations are expected to continue; contributing to higher energy consumption levels in the future. Moderating factors are expected to be better appliance efficiencies, home insulation, and the near full saturation of air conditioning in the Members' service areas.

Commercial usage per consumer is much lower on the Seminole system (56,169 KWh in 2006) than in Florida as a whole (80,396 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 0.5 percent through 2017.

#### 2.2.4 Energy Sales and Purchases

Residential energy sales are projected to grow at 1.1 percent annually between 2008 and 2017. The energy sales forecast reflects energy savings from historical conservation efforts and incremental conservation growth at the same rate of adoption. Commercial energy sales are projected to grow at an annual average of 1.5 percent over the same period.

#### 2.2.5 Peak Demand

Seminole's winter peak demand is projected to increase at an average annual rate of 1.3 percent over the ten-year planning horizon, while summer peak demand is projected to increase at an average annual rate of 1.4 percent over the same period.

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 21 percent 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 2007, as part of a recently adopted strategic initiative, Seminole and its Members began assessing the viability of a range of demand side alternatives.

#### 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		RESIDI	ENTIAL	
Year	Population Served by Members	Members Per Household	GWh	Avg. Number of Customers	Average KWh Consumption Per Customer
1998	1,369,709	2.31	7,975	595,967	13,382
1999	1,403,653	2.31	7,993	607,059	13,167
2000	1,440,326	2.31	8,550	623,151	13,721
2001	1,479,620	2.31	8,755	640,290	13,673
2002	1, 521,052	2.30	9,543	660,416	14,450
2003	1,568,107	2.29	10,016	686,136	14,598
2004	1,626,519	2.28	10,221	713,547	14,324
2005	1,691,493	2.27	10,807	744,618	14,513
2006	1,749,748	2.24	11,153	780,688	14,286
2007	1,810,029	2.25	11,443	803,959	14,233
2008	1,870,311	2.20	12,228	846,859	14,439
2009	1,834,061	2.20	12,132	833,670	14,553
2010	1,758,933	2.19	11,775	802,379	14,675
2011	1,816,448	2.18	12,311	831,392	14,808
2012	1,873,959	2.18	12,842	860,394	14,926
2013	1,931,472	2.17	13,376	889,390	15,040
2014	1,588,477	2.11	11,537	754,279	15,295
2015	1,629,221	2.10	11,976	776,477	15,424
2016	1,665,641	2.09	12,379	795,690	15,558
2017	1,695,480	2.08	12,785	814,901	15,689



Schedule 2.2
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

Year		COMMERC	041- 0.1		
Y ear	GWh	Avg. Number of Customers	Average KWh Consumption Per Customer	Other Sales (GWh)	Total Sales (GWh)
1998	3,012	57,012	52,831	117	11,104
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	4,935	88,372	54,519	162	16,540
2008	5,296	93,801	56,535	158	17,682
2009	5,290	92,246	57,347	157	17,578
2010	5,134	88,736	57,857	151	17,060
2011	5,368	91,852	58,442	158	17,837
2012	5,601	94,976	58,973	163	18,607
2013	5,839	98,110	59,515	170	19,385
2014	5,052	88,300	57,214	169	16,758
2015	5,265	91,122	57,780	175	17,416
2016	5,500	94,162	58,410	181	18,059
2017	5,740	97,206	59,050	188	18,713

NOTE: Commercial class includes industrial customers; Other sales class includes lighting customers.



# Schedule 2.3 History and Forecast of Energy Consumption and Number of Customers by Customer Class

<del></del>			mers 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
1998	0	876	11,980	3,586	656,565
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	1,130	17,670	5,054	897,385
2008	0	1,234	18,916	5,374	946,034
2009	0	1,234	18,812	5,245	931,161
2010	0	1,219	18,279	5,006	896,121
2011	0	1,265	19,102	5,135	928,379
2012	0	1,312	19,919	5,265	960,635
2013	0	1,359	20,744	5,392	992,892
2014	0	1,103	17,861	5,482	848,061
2015	0	1,147	18,563	5,597	873,197
2016	o	1,191	19,250	5,716	895,568
2017	0	1,234	19,947	5,836	917,943



Schedule 3.1.1
History and Forecast of Summer Peak Demand (MW) - Base Case

Year	Total	Wholesale	Retail	Distributed	Resident	ial	Commer	cial	Net
1641	TOTAL	Wholesale	Retail	Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
1998	2,756	2,756	0	N/A	150	N/A	N/A	N/A	2,606
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	o	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	4,049	4,049	0	107	103	N/A	N/A	N/A	3,839
2008	4,150	4,150	0	108	95	N/A	N/A	N/A	3,947
2009	4,123	4,123	0	108	95	N/A	N/A	N/A	3,920
2010	4,065	4,065	0	108	95	N/A	N/A	N/A	3,862
2011	4,234	4,234	0	108	95	N/A	N/A	N/A	4,031
2012	4,400	4,400	0	108	95	N/A	N/A	N/A	4,197
2013	4,568	4,568	0	108	95	N/A	N/A	N/A	4,365
2014	4,016	4,016	0	108	95	N/A	N/A	N/A	3,813
2015	4,160	4,160	0	108	95	N/A	N/A	N/A	3,957
2016	4,299	4,299	0	108	95	N/A	N/A	N/A	4,096
2017	4,439	4,439	0	108	95	N/A	N/A	N/A	4,236

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) - High Case

Year	Total	Wholesale	Retail	Distributed	Resident	Residential		cial	Net
				Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
2008	4,213	4,213	0	108	95	N/A	N/A	N/A	4,010
2009	4,213	4,213	0	108	95	N/A	N/A	N/A	4,010
2010	4,115	4,115	0	108	95	N/A	N/A	N/A	3,912
2011	4,315	4,315	0	108	95	N/A	N/A	N/A	4,112
2012	4,511	4,511	0	108	95	N/A	N/A	N/A	4,308
2013	4,710	4,710	0	108	95	N/A	N/A	N/A	4,507
2014	4,153	4,153	0	108	95	N/A	N/A	N/A	3,950
2015	4,329	4,329	0	108	95	N/A	N/A	N/A	4,126
2016	4,520	4,520	0	108	95	N/A	N/A	N/A	4,317
2017	4,717	4,717	0	108	95	N/A	N/A	N/A	4,514

Schedule 3.1.3
Forecast of Summer Peak Demand (MW) - Low Case

Year	Total	Wholesale	Retail	Distributed	Resident	Residential		cial	Net
				Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
2008	4,050	4,050	0	108	95	N/A	N/A	N/A	3,847
2009	3,983	3,983	0	108	95	N/A	N/A	N/A	3,780
2010	3,830	3,830	0	108	95	N/A	N/A	N/A	3,627
2011	3,954	3,954	0.	108	95	N/A	N/A	N/A	3,751
2012	4,074	4,074	0	108	95	N/A	N/A	N/A	3,871
2013	4,195	4,195	0	108	95	N/A	N/A	N/A	3,992
2014	3,655	3,655	0	108	95	N/A	N/A	N/A	3,452
2015	3,764	3,764	0	108	95	N/A	N/A	N/A	3,561
2016	3,871	3,871	0	108	95	N/A	N/A	N/A	3,668
2017	3,981	3,981	0	108	95	N/A	N/A	N/A	3,778



Schedule 3.2.1 History and Forecast of Winter Peak Demand (MW) - Base Case

Year	Total	Wholesale	Retail	Distributed	Resident	tial	Commer	cial	Net
·				Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
1997-98	2,529	2,529	0	N/A	115	N/A	N/A	N/A	2,414
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	4,340	4,340	0	41	110	N/A	N/A	N/A	4,189
2008-09	4,966	4,966	0 ,	108	140	N/A	N/A	N/A	4,718
2009-10	4,907	4,907	0	108	140	N/A	N/A	N/A	4,659
2010-11	5,115	5,115	0	108	140	N/A	N/A	N/A	4,867
2011-12	5,327	5,327	0	108	140	N/A	N/A	N/A	5,079
2012-13	5,541	5,541	0	108	140	N/A	N/A	N/A	5,293
2013-14	4,832	4,832	0	108	140	N/A	N/A	N/A	4,584
2014-15	5,012	5,012	0	108	140	N/A	N/A	N/A	4,764
2015-16	5,193	5,193	0	108	140	N/A	N/A	N/A	4,945
2016-17	5,372	5,372	0	108	140	N/A	N/A	N/A	5,124
2017-18	5,552	5,552	0	108	140	N/A	N/A	N/A	5,304

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) - High Case

Year	Total	Wholesale	Retail	Distributed	Resident	tial Commerc		cial	Net
				Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
2008-09	5,055	5,055	0	108	140	N/A	N/A	N/A	4,807
2009-10	4,946	4,946	0	108	140	N/A	N/A	N/A	4,698
2010-11	5,189	5,189	0	108	140	N/A	N/A	N/A	4,941
2011-12	5,439	5,439	0	108	140	N/A	N/A	N/A	5,191
2012-13	5,691	5,691	0	108	140	N/A	N/A	N/A	5,443
2013-14	5,028	5,028	0	108	140	N/A	N/A	N/A	4,780
2014-15	5,246	5,246	0	108	140	N/A	N/A	N/A	4,998
2015-16	5,482	5,482	0	108	140	N/A	N/A	N/A	5,234
2016-17	5,731	5,731	0	108	140	N/A	N/A	N/A	5,483
2017-18	5,983	5,983	0	108	140	N/A	N/A	N/A	5,735

## Schedule 3.2.3 Forecast of Winter Peak Demand (MW) - Low Case

Year	Total	Wholesale	Retail	Distributed	Resident	tiał	Commerc	cial	Net
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Generation	Load Mgmt.	Cons.	Load Mgmt.	Cons.	Firm Demand
2008-09	4,826	4,826	0	108	140	N/A	N/A	N/A	4,578
2009-10	4,646	4,646	0	108	140	N/A	N/A	N/A	4,398
2010-11	4,798	4,798	0	108	140	N/A	N/A	N/A	4,550
2011-12	4,954	4,954	0	108	140	N/A	N/A	N/A	4,706
2012-13	5,109	5,109	0	108	140	N/A	N/A	N/A	4,861
2013-14	4,458	4,458	0	108	140	N/A	N/A	N/A	4,210
2014-15	4,594	4,594	0	108	140	N/A	N/A	N/A	4,346
2015-16	4,735	4,735	0	108	140	N/A	N/A	N/A	4,487
2016-17	4,878	4,878	0	108	140	N/A	N/A	N/A	4,630
2017-18	5,018	5,018	0	108	140	N/A	N/A	N/A	4,770



## Schedule 3.3.2 Forecast of Annual Net Energy for Load (GWh) - High Case

Year	Total	Conservation		Retail	Wholesale	Utility Use	_ Net	Load	
	7 0 1 1	Residential	Commercial	Rotati	Wholesale	& Losses	Energy for Load	Factor %	
2008	19,202	N/A	N/A	0	17,968	1,234	19,202	45.6	
2009	19,225	N/A	N/A	0	17,991	1,234	19,225	45.7	
2010	18,782	N/A	N/A	0	17,563	1,219	18,782	45.6	
2011	19,765	N/A	N/A	0	18,500	1,265	19,765	45.7	
2012	20,746	N/A	N/A	0	19,434	1,312	20,746	45.6	
2013	21,734	N/A	N/A	0	20,375	1,359	21,734	45.6	
2014	19,076	N/A	N/A	0	17,973	1,103	19,076	45.6	
2015	19,958	N/A	N/A	0	18,811	1,147	19,958	45.6	
2016	20,909	N/A	N/A	0	19,718	1,191	20,909	45.6	
2017	21,899	N/A	N/A	0	20,665	1,234	21,899	45.6	

Schedule 3.3.3
Forecast of Annual Net Energy for Load (GWh) - Low Case

Year	Total	Conservation		Retail	Wholesale	Utility Use	Net	Load	
		Residential	esidential Commercial		77 110105410	& Losses	Energy for Load	Factor %	
2008	18,465	N/A	N/A	0	17,231	1,234	18,465	46.0	
2009	18,167	N/A	N/A	0	16,933	1,234	18,167	45.3	
2010	17,459	N/A	N/A	0	16,240	1,219	17,459	45.3	
2011	18,077	N/A	N/A	0	16,812	1,265	18,077	45.3	
2012	18,687	N/A	N/A	0	17,375	1,312	18,687	45.3	
2013	19,299	N/A	N/A	0	17,940	1,359	19,299	45.3	
2014	16,714	N/A	N/A	0	15,611	1,103	16,714	45.3	
2015	17,266	N/A	N/A	0	16,119	1,147	17,266	45.4	
2016	17,819	N/A	N/A	0	16,628	1,191	17,819	45.3	
2017	18,385	N/A	N/A	0	17,151	1,234	18,385	45.3	



Schedule 4
Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month

	2007	Actual	2008 Fe	recast	2009 Forecast		
Month	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	
January	3,676	1,333	4,742	1,551	4,718	1,544	
February	4,026	1,283	3,776	1,325	3,776	1,321	
March	2,922	1,264	3,068	1,386	3,058	1,382	
April	2,991	1,270	3,079	1,375	3,069	1,370	
May	3,102	1,480	3,510	1,629	3,495	1,622	
June	3,533	1,649	3,719	1,753	3,697	1,742	
July	3,648	1,812	3,820	1,890	3,799	1,880	
August	3,839	1,931	3,947	1,961	3,920	1,947	
September	3,641	1,656	3,641	1,705	3,618	1,694	
October	3,211	1,510	3,249	1,453	3,223	1,442	
November	2,752	1,186	2,901	1,353	2,879	1,344	
December	2,975	1,296	3,362	1,535	3,335	1,524	
ANNUAL		17,670		18,916		18,812	



#### 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, February 2007 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 slightly decline in the future. This is based on system wide historical declines in 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

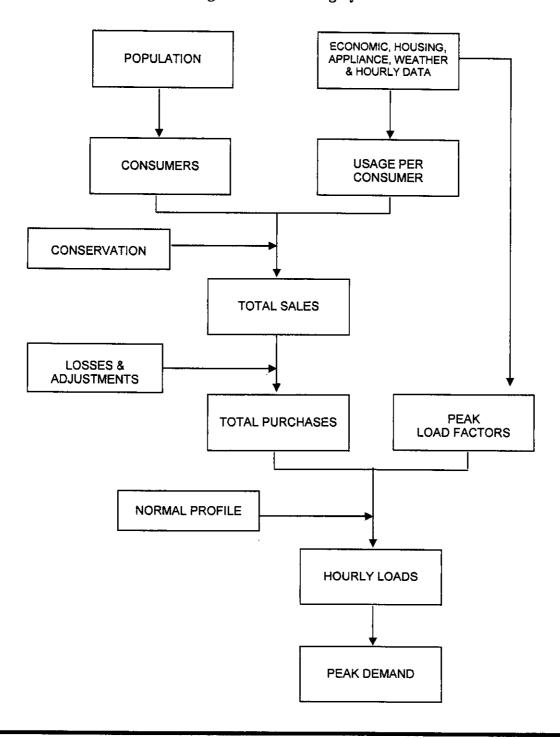
Seminole's Integrated Forecasting System consists of the following sub-models:

- (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
Integrated Forecasting System



#### 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 2006 actual data. Seasonally adjusted monthly forecasts are developed from the 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 energy in 2006, 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 autoregressive correction is used when necessary. Forecasts of energy usage per consumer are benchmarked to 2006, 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 Require:	S ments For	Schedule 5 r Seminole	Schedule 5 Fuel Requirements For Seminole Generating Resources	ig Resour	ses				
Enel Deci	1	1,1	Act	Actual	385									
r uei Acquirements	Iremenis	CDIES	2006	2007	7008 7008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nuclear	ear	Trillion BTU	1	-	-	1	-	-	_	-	-	_	9	12
Coal	E	1000 Tons	3700	3830	3808	3923	3952	4020	3958	3959	5188	5760	5832	5280
	Total	1000 BBL	0	0	0	0	•	0	0	0	0	0	0	0
Residual	Steam	1000 1000	0	0	0	0	0	0	0	0	0	0	0	0
	သ	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
1.17	CT	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1000 BBL	54	58	12	56	49	84	25	182	59	84	108	801
Distillate	Steam	1000 BBL	42	41	3	0	0	0	0	0	0	0	0	0
	သ	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	1006 BBL	12	1.7	6	56	49	48	25	182	59	84	108	108
	Total	1000 MCF	16465	7299	79/1	8586	13464	13659	14246	13800	9788	6666	10736	10920
Natural	Steam	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
Gas	ဘ	1000 MCF	16323	4027	6406	6645	11988	11970	11789	11798	8958	7654	7173	7218
	CT	1000 MCF	142	3272	1361	1941	1476	1689	2457	2002	1220	2345	3563	3702



					Enel	Schedule 6.1 rgy Sources (6	Schedule 6.1 Energy Sources (GWh)							
Energy	Energy Sources	Units	Ac	Actual	2008	2000	2010	100	3013	2613		2000		2,00
Ĝ			2006	2007		6007	0107	1107	7107	C107	<b>4107</b>	CI07	9107	7107
Inter-Regiona	Inter-Regional Interchange	GWh	0	0	0	0	0	0	0	0	0	٥	0	0
Nuc	Nuclear	GWh	611	119	174	136	124	115	168	157	140	129	591	1247
Coal	lax.	GWh	9631	10241	11028	10718	9940	2886	10272	10264	12820	14298	14453	14215
	Total	GWh	478	40	804	0	0	0	0	0	0	0	0	0
Residual	Steam	GWh	478	0	500	0	0	0	0	0	0	0	0	0
	8	GWh	0	19	204	0	0	0	0	0	0	0	0	0
	CT	GWh	0	21	100	0	0	0	0	0	0	0	0	0
	Total	GWh	389	1446	116	88	96	78	54	237	39	51	09	09
Distillate	Steam	GWh	256	500	2	0	0	0	0	0	0	0	0	0
	20	GWh	0	878	0	0	0	0	0	55	4	et.	0	0
	CT	GWh	133	89	114	88	96	78	54	182	35	48	09	09
	Total	GWh	6415	5477	4087	5617	5706	6326	6752	7333	3406	2607	2630	2639
Natural Gas	Steam	GWh	275	260	620	1325	1064	1164	1374	1255	214	227	248	228
	သ	GWh	5054	4097	2745	3906	4236	4526	4603	5443	2814	1923	1866	1873
	СТ	GWh	1086	820	722	386	406	636	77.5	635	378	457	516	538
NUG	lG	GWh	0	0	0	0	0	0	0	0	0	0	0	0
Renewables	ables	GWh	323	347	708	725	089	822	385	338	427	385	385	383
Other	ier	GWh	0	0	1999	1528	1733	1874	2288	2415	1029	1093	1131	1403
Net Energy for Load	for Load	GWh	17355	17670	18916	18812	18279	19102	19919	20744	17861	18563	19250	19947
NOTE: In 2006	and 2007, net int	NOTE: In 2006 and 2007, net interchange and PEF system purchases are included under source fuel categories.	ystem purcha	ses are inclu	ded under so	nirce fuel car	tegories. Sta	rting in 2008	Starting in 2008, net interchange and PEF system purchases are included in "Other".	ange and PE	F system pu	chases are ii	Cluded in "C	ther".



								(1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (						
Energy	Energy Sources	Units	¥	Actual	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
6			2006	2007					<b>!</b>					107
Inter-Region	Inter-Regional Interchange	%	%00'0	%00.0	0.00%	%00'0	%00'0	%00.0	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%
άχ	Nuclear	%	%69:0	%19.0	0.92%	0.72%	%89'0	0.60%	0.84%	0.75%	0.78%	%69'0	3.07%	6.25%
S	Coal	%	55.49%	82.36%	58.30%	56.98%	54.38%	51.76%	%LS:1S	49.48%	71.78%	77.03%	75.08%	71.26%
	Total	%	2.75%	0.23%	4.25%	%00.0	%00'0	%00:0	0.00%	%00.0	%00.0	0.00%	0.00%	0.00%
Residual	Steam	%	2.75%	%00:0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	0.00%
	ဆ	%	0.00%	0.110.00%	0.00%	0.00%	%00'0	0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%
	CT	%	0.00%	0.12%	4.25%	0.00%	%00'0	%00:0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Total	%	2.24%	8.18%	0.61%	0.47%	0.52%	0.41%	0.27%	0.93%	0.20%	0.27%	0.31%	0.30%
Distillate	Steam	%	1.48%	2.83%	0.01%	0.00%	0.00%	%00'0	%00.0	0.00%	0.00%	0.00%	%00:0	0.00%
	ဘ	%	0.00%	4.97%	0.00%	0.00%	0.00%	%00'0	%00'0	0.06%	0.01%	0.01%	%00.0	0.00%
	СТ	%	0.77%	0.38%	0.60%	0.47%	0.52%	0.41%	0.27%	0.88%	%61.0	0.26%	0.31%	0.30%
	Total	%	36.96%	31.00%	21.60%	29.86%	31.21%	33.12%	33.90%	35.35%	19.07%	14.04%	13.66%	13.23%
Natural Gas	Steam	%	1.58%	3.17%	3.28%	7.05%	5.82%	%60'9	6.90%	6.05%	1.20%	1.22%	1.29%	1.14%
	သ	%	29.12%	23.19%	14.51%	20.76%	23.17%	23.70%	23.11%	26.24%	15.76%	10.36%	%69'6	9.39%
	CT	%	6.26%	4.64%	3.82%	2.05%	2.22%	3.33%	3.89%	3.06%	2.11%	2.46%	2.68%	2.70%
Ī	NUG	%	0.00%	%00.0	%00.0	0.00%	%00:0	0.00%	%00:0	0.00%	0.00%	0.00%	0.00%	0.00%
Renev	Renewables	%	1.86%	1.96%	3.74%	3.85%	3.72%	4.30%	1.94%	1.85%	2.15%	2.07%	2.00%	1.92%
Ö	Other	%	0.00%	0.00%	10.57%	8.12%	9.49%	9.81%	11.49%	11.64%	6.02%	5.90%	5.88%	7.03%
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%	100.00%
NOTE: In 200¢	NOTE: In 2006 and 2007, net interchange and PEF system purchases are included under source fuel categories. Starting in 2008, net interchange and PEF system purchases are included in "Other"	terchange a	nd PEF sys	tem purchases a	are included un	der source fuel	categories. Stai	rting in 2008, n	st interchange a	nd PEF system	purchases are in	ichided in "Oth	er".	



### 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 more than 1,000 MW of new generation by the summer of 2014 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 the Seminole Generation Station (SGS). As a result of Seminole's April 2004 all-source RFP for base load capacity, SGS Unit 3 was determined to be 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 of SGS Unit 3. The denial was based on procedural issues associated with approval of



facilities under the Power Site Siting Act. Seminole has appealed the DEP's decision through the Fifth District Court of Appeal, and a final decision is expected in late 2008. Seminole intends to finalize its decision regarding the construction of SGS Unit 3 by the spring of 2009. Due to delays associated with the appeal, if SGS Unit 3 is built, the in-service date for SGS Unit 3 has been revised to May 2014.

Seminole's capacity expansion plan also includes the construction of a 62 MW aeroderivative peaking combustion turbine unit to be built at the Midulla site. Seminole also plans to construct three 170 MW class combustion turbine units at a new site in Gilchrist County. These three units are scheduled to enter service in 2013.

Seminole has a FERC-filed qualifying facility 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, an existing 12.5 MW biomass (wood waste) burning facility which is slated to expand to 32 MW by December 2010, Bio-Energy Partners, a 7 MW landfill methane gas burning facility, Landfill Energy Systems, with 15 MW total capacity coming from two waste-to-energy projects, and Timberline Energy, a 1.6 MW landfill gas-to-energy facility. These renewable resources will serve approximately 4% of Seminole's total energy requirements in 2008.



Schedules 7.1, 7.2, and 8 include the addition of approximately 2,300 MW of capacity by 2017 at SGS, MGS, 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 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 for purchased alternatives, do not represent at this time a commitment for construction by Seminole. Therefore, no Schedule 9 is included for these units.



Schedule 7.1	Demand and Scheduled Maintenance at Time of Summer Peak
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	Total	Firm (	Firm Capacity Import (MW)	rt (MW)	Firm		Capacity Available (MW)	e (MW)	System I Peak De	System Firm Summer Peak Demand (MW)	Reserve	Reserve Margin		<sup>8</sup> ;	Reserve
	Capacity (MW)	PR and	Other	Total	Capacity Export	(MW)	Total	Less PR	Total	Obligation	Main	Maintenance	Scheduled Maintenance (MW)	Marg Main	Maintenance
		Æ	Furchases		()			and FR		Conganion	MW	% of Pk		MW	% of Pk
2008	2,100	280	1,805	2,385	0	0	4,485	3,905	3,947	3,367	538	16.0%	0	538	16.0%
2009	2,100	340	2,056	2,396	0	0	4,496	4,156	3,920	3,580	576	16.1%	0	576	16.1%
2010	2,100	381	2,097	2,478	0	0	4,578	4,197	3,862	3,481	716	20.6%	0	716	20.6%
2011	2,154	420	2,097	2,517	0	0	4,671	4,251	4,031	3,611	640	17.7%	0	640	17.7%
2012	2,156	445	2,203	2,648	0	0	4,804	4,359	4,197	3,752	209	16.2%	0	607	16.2%
2013	2,314	479	2,269	2,748	0	0	5,062	4,583	4,365	3,886	269	17.9%	0	269	17.9%
2014	3,501	<b>2</b>	1,020	1,104	0	0	4,605	4,521	3,813	3,729	792	21.2%	0	792	21.2%
2015	3,501	98	1,020	1,106	0	0	4,607	4,521	3,957	3,871	920	16.8%	0	650	16.8%
2016	4,056	8	561	159	0	0	4,707	4,617	4,096	4,006	611	15.3%	0	119	15.3%
2017	4,296	92	561	653	0	0	4,949	4,857	4,236	4,144	713	17.2%	0	713	17.2%
OHECIT															

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

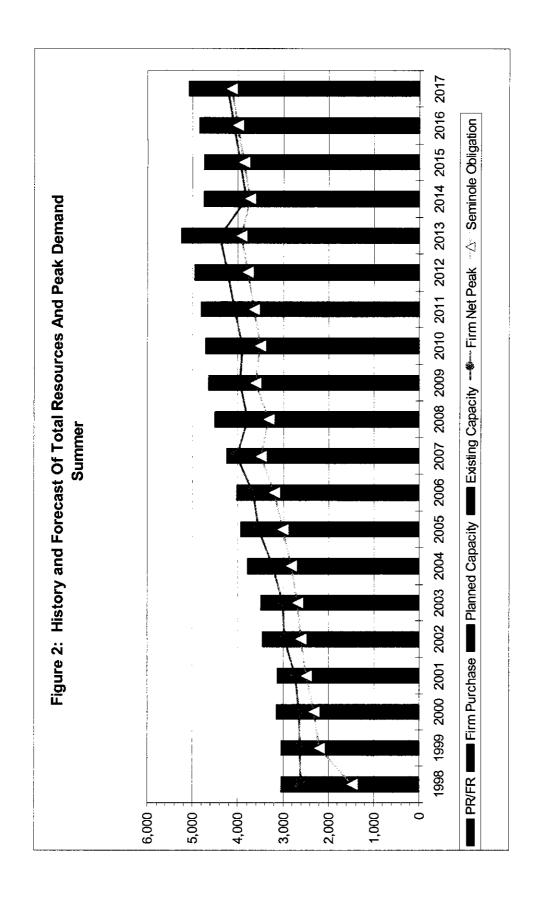
2. Firm Capacity Import/Other Purchases include a firm purchase power contract from Hardee Power Partners for 287 MW of first-call capacity from the Hardee Power Station to back up 1240 MW of Seminole Generating Station and Crystal River Unit 3.

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 on Seminole's Obligation.







Schedule 7.2 Forecast of Capacity, Demand and Scheduled Maintenance at Time of Winter Peak

	Total	Firm C	Firm Capacity Import (MW)	t (MW)	Firm		Capacity Available (MW)	acity e (MW)	System F	System Firm Summer Peak Demand (MW)	Reserve	Reserve Margin		<sup>2</sup> ;	Reserve
Year	Installed Capacity (MW)	PR	Other	Total	Capacity Export	QFs (MW)	Total	Less PR	Total	Obligation	De Maint	beiore Maintenance	Scheduled Maintenance (MW)	Marg Main	Margin Affer Maintenance
	(11.71)	FR	Purchases		(m, m)			and FR		Congation	WW	% of Pk	,	MW	MW % of Pk
2008/09	2,238	825	2,292	3,117	0	0	5,355	4,530	4,718	3,893	637	16.4%	0	637	16.4%
2009/10	2,238	915	2,160	3,075	0	0	5,313	4,398	4,659	3,744	654	17.5%	0	654	17.5%
2010/11	2,238	983	2,362	3,345	0	O	5,583	4,600	4,867	3,884	716	18.4%	0	716	18.4%
2011/12	2,302	1,038	2,457	3,495	0	0	5,797	4,759	5,079	4,041	718	17.8%	0	718	17.8%
2012/13	2,302	1,105	2,546	3,651	0	0	5,953	4,848	5,293	4,188	099	15.8%	0	099	15.8%
2013/14	2,883	76	2,696	2,793	0	0	9,676	5,579	4,584	4,487	1,092	24.3%	0	1,092	24.3%
2014/15	3,713	100	1,790	1,890	0	0	5,603	5,503	4,764	4,664	839	18.0%	0	839	%0.81
2015/16	4,253	104	1,318	1,422	0	0	5,675	5,571	4,945	4,841	730	15.1%	0	730	15.1%
2016/17	4,514	108	1,261	1,369	0	0	5,883	5,775	5,124	5,016	759	15.1%	0	759	15.1%
2017/18	4,596	111	1,382	1,493	0	0	6,089	5,978	5,304	5,193	785	15.1%	0	785	15.1%
NOTES	1 Total inetall	Ped canacity	NOTES: 1 Total installed canacity and the accordated recent	n evenesa pe	Sometimen and beauty on Comments of the second and the second of the sec	od on Com	1000	1							

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

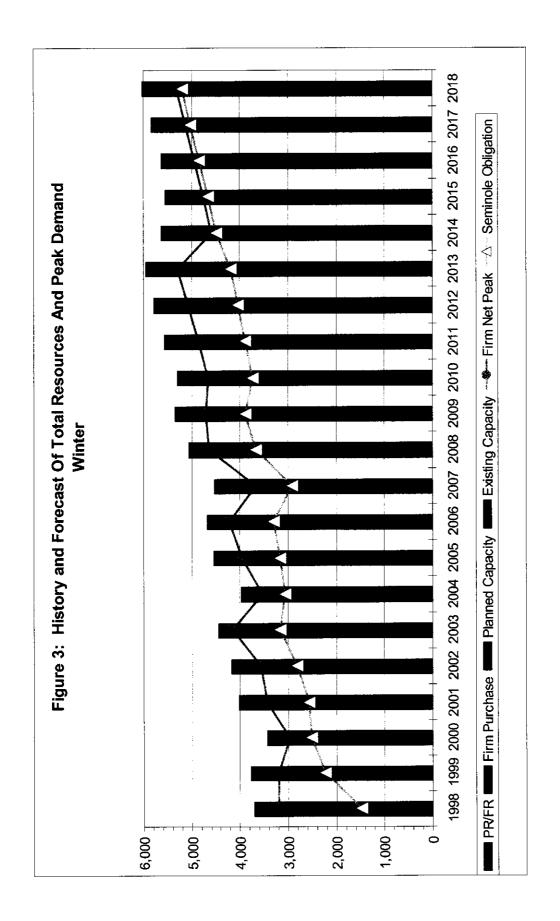
2. Firm Capacity Import/Other Purchases include a firm purchase power contract from Hardee Power Partners for 353 MW of first-call capacity from the Hardee Power Station to back up 1240 MW of Seminole Generating Station and Crystal River Unit 3.

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 on Seminole's Obligation.







			Pla	ınned 2	and Pro	spective	Scl Gener	Schedule 8 terating Facili	Schedule 8 Planned and Prospective Generating Facility Additions and Changes	nd Changes				
Plant Name	Unit No	Location	Unit No Location Unit Type	Fuel		Transpor	tation (	Transportation Const. Start	Comm. In-	Expected	Max	Summer	Winter	Status
			<b>.</b>	Pri	Alt	Pri	Alt	Date	Service Date	Kettrement Date	Nameplate	ΜM	MW	Sings
MGS P&W	6	Hardee	CT	NG	DFO	딥	¥	€	5/2011	Unk	62	54	62	Ъ
Gilchrist	-	Gilchrist	C	Ŋ	DFO	PL	¥	(1)	5/2013	Unk	170	153	170	д
Gilchrist	7	Gilchrist	CJ	Š	DFO	PL	Ħ	Ξ	12/2013	Unk	170	153	170	۵.
Gilchrist	8	Gilchrist	Đ	NG	DFO	PL	¥	(3)	12/2013	Unk	170	153	170	<u>a</u> .
SGS	m	Putnam	ST	BIT	ı	æ	1	2010	5/2014	Unk	750	750	750	ፈ
SEC Base	-	Putnam	ST	BIT	I	RR	ı	Ξ	5/2014	Unk	08	80	<b>0</b> 8	۵.
Gilchrist	m	Gilchrist	CT	SZ	DFO	PL	¥	Ξ	12/2014	Unk	170	153	170	d.
SEC Peaking	-	Unk	CT	NG	DFO	PL	¥	Ξ	12/2015	Unk	170	153	170	Д,
SEC Peaking	2	Unk	5	NG	DFO	Ы	TK	(E)	12/2015	Unk	170	153	170	-
SEC Peaking	m	Unk	CT	Ŋ	DFO	PL	TK	Ξ	12/2015	Unk	170	153	170	e.
SEC Peaking	4	Unk	CT	ŊĊ	DFO	PL	ТK	Ξ	12/2016	Unk	170	153	170	e.
SEC Peaking	νn	Unk	CT	ŊĊ	DFO	PI.	TK	ε	12/2017	Unk	170	153	170	e.
SEC Base (2)	7	Levy	ST	NUC	i	TK	I	(2)	5/2016	Unk	81	81	81	ρ.,
SEC Base (2)	3	Levy	ST	NUC	ı	TK	1	(2)	5/2017	Unk	82	82	82	<u>.</u>
Abbreviations:	Unk P	Unknown Planned, but	Unknown Planned, but not under construction.	truction.										



<sup>(1)</sup> Future resource which may be existing or new as determined by future Request for Proposal results.
(2) SECI in discussions with PEF regarding 163 MW share (ownership or purchased power agreement) of proposed Levy County nuclear units.

# 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, PR rate projections, 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 will place 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 2014 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 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.

Conservation and DSM programs will continue to be implemented at the discretion of Seminole's Member systems, based on their determination of the value and/or cost effectiveness of specific programs.

### 5.6 Reliability Criteria

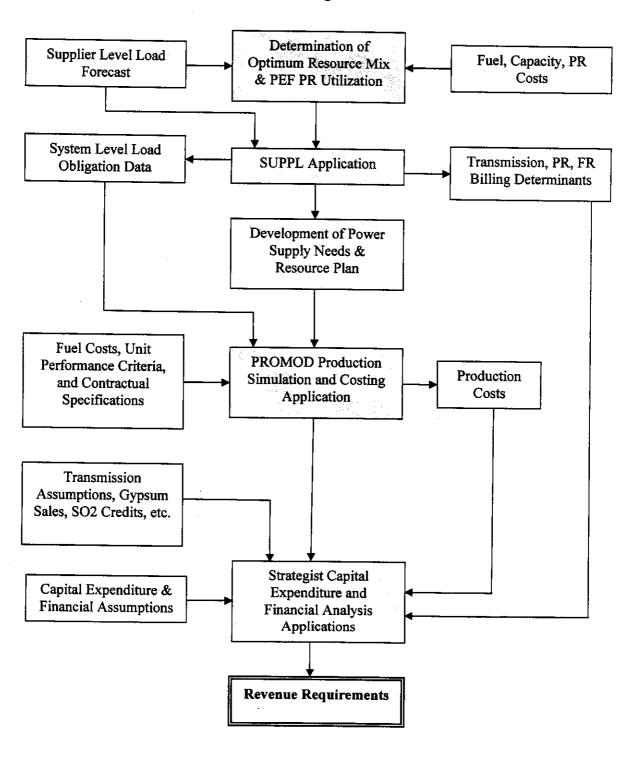
The total amount of generating capacity and reserves required by Seminole is affected by Seminole's load forecast and its reliability criteria. Reserves serve two primary purposes: to provide replacement power during generator outages and to account for load forecast uncertainty. Seminole has two principal 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 the Seminole Generating Station is for reliability and economic reasons, but also to avoid an over-reliance on natural gas for Seminole's future energy needs. Only a few years ago, gas combined cycle was considered an economic choice for base load capacity. But rising prices, increased volatility, and gas supply concerns have made coal-fired generation more attractive. 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, qualifying facilities, 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
	From	То	00	Miles	In-Service Date	Voltage (kV)	(MVA)
Upgrade	Seminole Plant	Silver Springs N	2	49.8	2012	230	1139
New	Gilchrist Plant	Gilchrist East Switching Station	2	10	2012	230	1139



# 5.9.1 Transmission Facilities for Seminole Generating Station Expansion

In May 2014, 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:

- 1. 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.
- 3. 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 2013, 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.



	Status Report and Specifica	Schedule 9 ations of Proposed Generating Facilities
1	Plant Name & Unit Number	Midulla Generating Station Unit No. 9 P&W
2	Capacity a. Summer (MW): b. Winter (MW):	54 62
3	Technology Type:	Pratt & Whitney Combustion Turbine
4	Anticipated Construction Timing a. Field construction start-date: b. Commercial in-service date:	April 2010 May 2011
5	Fuel a. Primary fuel: b. Alternate fuel:	Natural Gas #2 Oil
6	Air Pollution Control Strategy	Low NOx Combustion with Water Injection
7	Cooling Method:	Air
8	Total Site Area:	Approximately 9.1 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 3.0 96.5 10% 10,900 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:	30 559 534 25 Included in values above 2.76 0.20 N/A



	Status Report and Specifica	Schedule 9 ations 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:	November 2008 May 2013 (Unit 1); December 2013 (Units 2 – 3)
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 3.5 96 85% 10,990 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 1040 866 174 Included in values above 14.04 2.34 N/A



	Status Report and Specific	Schedule 9 ations 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:	September 2010 May 2014
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:	FPSC Determination of Need received August 2006. Certification denied by FDEP (Seminole appealed FDEP decision, with final resolution expected in late 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):	7.5 3.5 90 85% 9,300 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 3166 2744 422 Included in values above 24.89 0.70 N/A



	Status Report and Specific	Schedule 10 ations 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:	Two
3	Right-of-Way	To be determined
4	Line Length:	10 miles each
5	Voltage:	230 V
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 - Putnam County, Florida

The Seminole Generating Station (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 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 has appealed the DEP's decision through the Fifth District Court of Appeal, and a final decision is expected in late 2008. Due to delays associated with the appeal, the in-service date for SGS Unit 3 has been revised to May 2014.

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 Florida DEP.

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

Water conservation measures that will be incorporated into the design of SGS Unit 3 will include the collection, treatment and recycling of plant process wastewater streams from 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 fuels for SGS Unit 3 will be bituminous coal and Petcoke. No. 2 (distillate) fuel oil will be used for startups and flame stabilization. Coal and Petcoke are currently and in the future will be delivered to the site by unit trains and fuel oil is delivered by truck. Coal and Petcoke 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.

Unit 3 is designed so that solid waste from the 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.

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 Flue Gas Desulfurization (FGD) systems for SO2 control, dry electrostatic precipitators (ESP- the collection and removal 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 Florida Department of Environmental Protection.

### 6.2 Midulla Generating Station – Hardee County, Florida

The Midulla Generating Station (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 - 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.

