

## ORIGINAL

March 31, 2003

Mr. Michael Haff Division of Public Records and Reporting Florida Public Service Commission 2540 Shumard Oak Blvd. Tallahassee, FL 32399

Dear Mr. Haff:

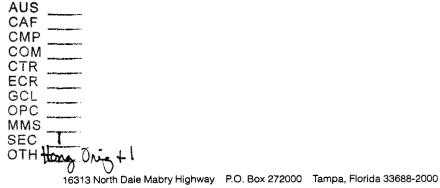
In accordance with Section 186.801, Florida Statutes, Seminole Electric hereby submits thirty (30) copies of our 2003 Ten Year Site Plan (TYSP).

Any questions or comments regarding Seminole's submittal will be greatly appreciated. Either Jim Duren, Vice President, Energy Production, or I will be happy to discuss the TYSP in more detail.

Sincerø Rulla

Richard J. Midulla Executive Vice President and General Manager

QT encl cc: J. Duren



03048 APR-18

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FPSC-COMMISSION CLERK



### Ten Year Site Plan 2002 - 2012 (Detail as of December 31, 2002) April 1, 2003

Submitted To: State of Florida Public Service Commission DOCUMENT NUMPER-DATE 03048 APR-18 FPSC-COMMISSION CLERK

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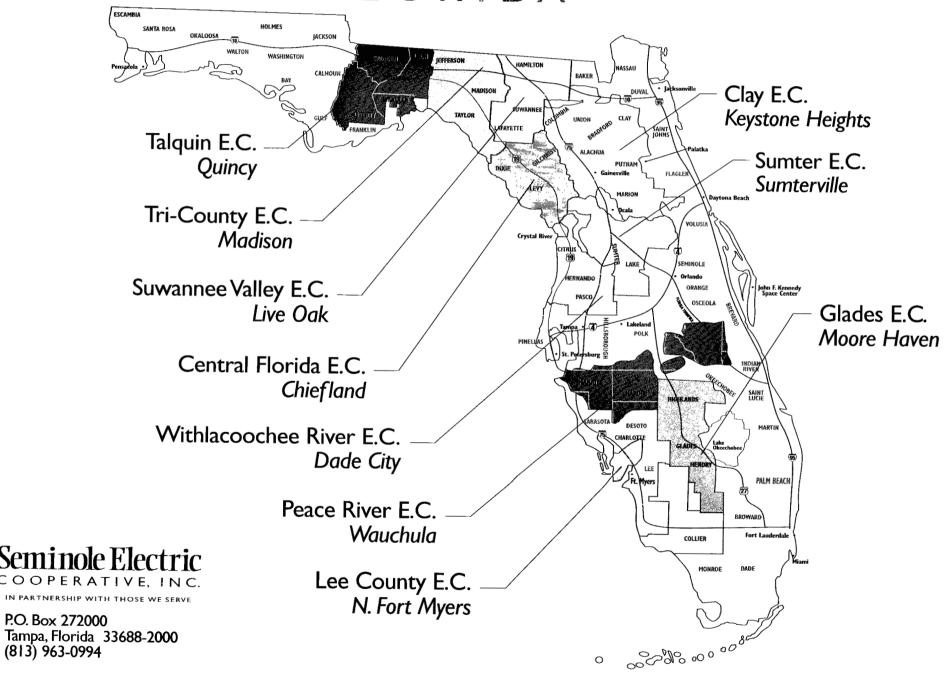
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# Seminole's Member Distribution Cooperatives

FLORIDA



#### 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. This is accomplished by generating, transmitting, purchasing, selling, exchanging, etc. electric power and energy, and constructing, owning, leasing, etc. such facilities as required for this purpose.

The Seminole member cooperatives 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



Each of these members is at present engaged primarily in the distribution of retail electric power; Seminole supplies full requirements power to the members. 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 Generation**. Seminole serves its aggregate member system load with a combination of owned and purchased power resources. Seminole Generating Station ("SGS") Units 1 & 2, 600 MW class coal-fired units, began commercial operation on February 1, 1984 and January 1, 1985, respectively. Payne Creek Generating Station ("PCGS") Unit #1, a 500 MW class combined cycle unit began commercial operation on January 1, 2002. Seminole owns a 14.5 MW share of Progress Energy's (formally known as Florida Power Corporation) Crystal River 3 nuclear generating unit which is operated by Progress Energy ("PE"). A more detailed description of Seminole's owned facilities is provided on Schedule 1.

**1.2.2 Transmission**. Seminole owns a 52 mile 230 kV double circuit transmission line from the Seminole Plant to the Silver Springs North switching station, 8 mile 230 kV double circuit line from the Seminole Plant to FPL's Rice Substation and 9 mile 230 kV single circuit transmission line from the Hardee Power Station ("HPS") to PE's Vandolah Substation. Seminole also owns a 78 mile 230 kV single circuit transmission line from HPS to Lee County Electric Cooperative's Lee Substation (a tie with FPL), and a 63 mile 230 kV single circuit transmission line from the SGS to an interconnection with Jacksonville Electric Authority at the Clay-Duval county line. Seminole jointly owns with PE two 230 kV tie lines which connect its Silver Springs North Switching Station with PE's Silver Springs substation.



Seminole owns fourteen (14) 69 kV transmission lines totalling140.6 miles in length: Clewiston to Cowbone Hammock, Otter Creek to Bronson, Otter Creek to Cedar Key, Cross City to Steinhatchee, Ortona Tap to Ortona, Spring Lake to Lorida, Andersen to Lake Panasoffkee, Belleview to Marion Oaks, Central Florida to Continental, Howey to Astatula, Altoona to Linadale, Scanlon Tap to Scanlon, Ft. Basinger to Basinger and Moore Haven to Lakeport. The one line diagram of Seminole system is shown on page 6.

#### 1.3 Purchased Power

Seminole's generation portfolio includes the following purchased power agreements<sup>1</sup>:

- Jacksonville Electric Authority ("JEA") 63 MW of firm peaking capacity through August, 2004;
- Orlando Utilities Commission ("OUC") 75 MW of firm intermediate and peaking capacity through May 2004;
- Progress Energy -
  - 150 MW of firm system intermediate capacity through 2013 with certain termination options;
  - 150 MW of firm system intermediate capacity June 2006 through 2013 with certain termination options;
  - 150 MW of firm system peaking capacity December 2006 through 2013 with certain conversion options;
  - Partial Requirements Load following requirements service through December 2013, with certain notice options relative to the amount

<sup>1</sup> All ratings are winter unless otherwise noted.



purchased.

- Lee County Resource Recovery 35 MW of firm base load capacity through November 2004;
- Reliant 364 MW of firm peaking capacity through December 2006;
- Constellation 364 MW of firm peaking capacity, increasing to 546 MW beginning May 2003, thru December 2009;
- Calpine 360 MW of firm intermediate capacity for the period June 2004 thru May 2009, with openers for possible extension thereafter.
- TECO Power Services ("TPS") 362 MW of first call reserve capacity from the Hardee Power Station (HPS) to cover a forced or scheduled outage or reduced capability of SGS and CR3.
- Tampa Electric Company ("TEC") Full requirements service for an interruptible load with no specific termination date.
- Gainesville Regional Utilities ("GRU") Full requirements service for a firm service delivery point with no specific termination date.
- Miscellaneous seasonal and short term purchases.

#### 1.4 Demand Side Management (DSM)

Seminole and its member systems utilize a variety of DSM and energy conservation programs. These programs include direct load control, distribution system voltage reduction, contractually interruptible load, customer-based generation, energy audits, insulation up-grades, and lighting conversion. Seminole's coordinated DSM program reduces Seminole's peak

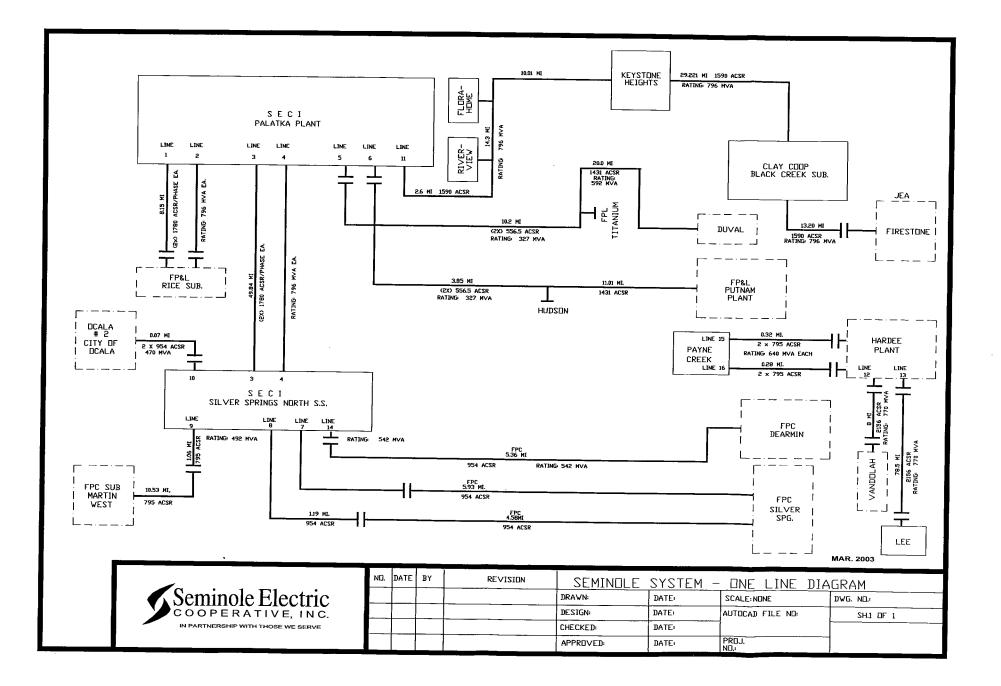


demand. The load forecast takes into account reductions due to DSM. While the effect of conservation is reflected in the load forecast, it's value is not estimated because of the difficulty in measuring the impact of the diverse programs.

#### 1.5 Distributed Generation (DG)

Seminole has implemented DG programs which allow Seminole's Members to install "behind the meter" customer-based DG to operate on a comparable basis to load management devices while providing on-site back up generation to improve customer reliability. The Member Systems also install DG to defer capital investment in distribution or transmission facilities, or otherwise for the purpose of improving the performance of the Member's distribution system.





Schedule 1

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#### Existing Generating Facilities As of December 31, 2001

				Fuel			Alt Fuel Comm'l		Expected	Gen Max	Net Capability		
		<b>-</b>		Fuel			Transport		In-Svc		Nameplate	Summer	Winter
Plant	Unit No.	Location	Unit Type	Primary	Alt	Primary	Alt	Use	Mo/Yr	Mo/Yr	MW	MW	MW
SGS	ł	Palatka	ST	BIT	N/A	RR	N/A	N/A	02/84	Unk	715	658	665
SGS	2	Palatka	ST	BIT	N/A	RR	N/A	N/A	01/85	Unk	715	658	665
PCGS	1	Hardee County	СТ	NG	DFO	PL	ТК	N/A	01/02	Unk	587	488	572
Crystal River	3	Citrus County	ST	NUC	N/A	TK	N/A	N/A	03/77	Unk	890	15	15
TOTAL												1,819	1,917
Abbreviations:				<u>Unit Type</u>			<u>Fuel Type</u>				Fuel Transport		
Unk - Unkr			Unkn	own	m ST - Steam Turbine, including nuclear			BIT - Bituminous Coal			PL	PL - Pipeline	
N/A - Not app		licable CT - Combined Cycle			Cycle	NG - Natural Gas			RR - Railroad				
								١	NUC - Nu	clear	T	K - Truck	
							DFO - I	No. 2 Dies	sel Fuel Oil				



#### 2. FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

2.1 Latest Trends

2.1.1 Service Area Economy. Seminole's member systems provide electricity to an area approximately 400 miles long, bounded on the west and north by the Apalachicola River, the Georgia border respectively and extending down to the southwestern and south-central regions of Florida. The variety of geographic and weather conditions yields a diverse mix of economic activity as well as 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.

Residential consumers increased at an annual rate of 2.6 percent in the early 1990s. Since 1995 annual growth in residential consumers has averaged 2.8 percent per year. In 2002, residential consumers grew at an annual rate of 3.3 percent, approaching the all time highs of the 1980's. Robust growth in commercial customer load in the 1980s was followed by slower growth in 1990 and 1991. Since 1991, the commercial consumer growth has increased, averaging 3.9 percent annually. During the past five years, commercial customer growth rates have surpassed residential consumer growth rates.

Historically, Seminole's residential consumer growth rate has exceeded the rate of growth for Florida as a whole. For the period of 1990-2000, Seminole's residential customer growth rate was 2.9 percent compared to 2.3 percent for Florida.

2.1.3 Income. A number of counties in Seminole's five largest member service areas



experienced higher growth in per capita income than the Florida average. 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 reflects the high concentration of retirees, especially in the more affluent parts of the service area. These types of income are relatively stable and consequently help absorb the impacts of economic change on the Florida economy and Member service areas.

#### 2.2 Forecast Results

2.2.1 Overview. Seminole growth rate 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 in the future even though both Florida and the Seminole system are expected to grow at slower percentage rates.

**2.2.2 Population**. Historical and forecasted population for Seminole's members' service area are shown on Schedule 2.1. In 2001, total population in the service area was estimated at approximately 1.4 million, which is projected to grow to 1.7 million by 2011.

2.2.3 Consumers. Seminole's members serve a significant portion of the less urbanized areas of the state which are located adjacent to metropolitan areas. It is therefore reasonable to expect continued higher consumer growth rates for Seminole's members than for Florida as a whole. The forecast of residential consumers is shown in Schedule 2.1 and the forecast of commercial consumers is shown in Schedule 2.2.

2.2.4 Usage per Consumer. Between 1990 and 2000, residential usage per consumer in Seminole members' service area increased at a compound annual rate of 2.1 percent as compared to the State average of 1.2 percent. The continued growth of average usage is



consistent with the Residential Appliance Survey results which show steady increases in appliance saturations and larger homes during the last decade.

Table 1 below summarizes survey results for 1986 and 2000. Between 1986 and 2000, larger homes were built and appliance saturations steadily increased.

Electricity prices in "nominal" terms have declined over the last decade, which means real prices have declined at an even greater pace. The decline in real electricity prices is an additional contributing factor for the increased energy usage per consumer.

Table 1									
Homes and Electric	Homes and Electric Appliance Saturations (%)								
	1986	2000							
Single Family Homes	59	69							
Homes > 2000 sq ft	13	23							
Homes < 2000 sq ft	42	23							
Primary Space Heating	55	84							
Air Conditioning	82	96							
Heat Pump	14	53							
Water Heater	89	92							
Refrigerator	99	99							
Television	98	99							
Electric Range	70	82							
Microwave Oven	53	96							
Dishwasher	40	65							
Clothes Dryer	58	85							
Clothes Washer	81	87							
Pool Pump	10	16							
SOURCE: "Residential Survey," Semino	ole Electric Cooperative,	Inc., 1986 and 2000.							



The continued increases in residential usage per consumer resulted in the Seminole system statistics reaching approximately the same usage level as the state average (e.g., the annual average residential usage of Seminole members was 13,717 KWh compared to the State's average of 13,741 KWh 2000.

Per consumer usage on the Seminole system is expected to grow at 1.4 percent annually through 2010. The continued trend toward larger homes, continued increases in appliance saturations, and stable or lower electricity prices will all contribute to higher energy consumption levels in the future.

Commercial/industrial usage per consumer is much lower on the Seminole system than in Florida as a whole, 54,679 KWh versus 80,052 KWh in 2000. This difference is even more stark considering that Seminole members' commercial usage also includes industrial consumers, whereas the Florida average does not. Seminole's member service area loads are dominant by residential and small commercial loads, with very little industrial load. Commercial/industrial usage per consumer is projected to grow at an average annual growth rate of 1.3 percent through 2010.

2.2.5 Energy Sales and Purchases. Residential energy sales are projected to grow at 3.8 percent annually between 2002 and 2011. This forecast incorporates anticipated increases in energy savings due to additional future conservation. Commercial energy sales are projected to grow at an annual average of 3.8 percent, over the same period. The forecasts of residential, commercial, and other class sales are shown on Schedules 2.1 and 2.2.

2.2.6 Peak Demand. Seminole's winter peak demand is projected to increase at an average annual rate of 3.8 percent and its summer peak demand is projected to increase at an



average annual rate of 3.6 percent.

Seminole as a whole and most of the member systems are expected to continue to be winter peaking. For the Seminole system, winter peaks are expected to be approximately 26 percent higher than summer peaks. This 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 forecasts reflect no additional load management. At this time most of Seminole's members do not plan to expand their load management programs and a few are evaluating the economic feasibility of maintaining their current programs into the future. The annual load factor for the Seminole system is expected to remain relatively level at 45 percent during the forecast period.

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.

**2.2.7 Forecast Scenario**. Forecast sensitivities are represented by high and low population scenarios representing population growth differences.



	Schedule 2.1 History and Forecast of Energy Consumption and Number of Customers by Customer Class										
			RESIDE	NTIAL							
Year	Population *	Members Per Household	GWh	Average Number of Customers	Average KWh Consumption Per Customer						
1993	1,247,191	2.40	5,999	518,687	11,566						
1994	1,256,710	2.37	6,250	531,032	11,770						
1995	1,284,800	2.35	6,907	546,832	12,631						
1996	1,314,194	2.34	7,266	561,981	12,929						
1997	1,342,992	2.32	7,238	578,345	12,515						
1998	1,368,919	2.31	7,975	592,441	13,461						
1999	1,374,188	2.26	7,993	607,059	13,167						
2000	1,402,895	2.25	8,548	623,151	13,717						
2001	1,434,198	2.24	8,755	640,289	13,674						
2002	1,465,498	2.22	9,543	661,333	14,430						
2003	1,496,799	2.22	9,511	673,224	14,128						
2004	1,528,099	2.21	9,911	690,116	14,361						
2005	1,559,400	2.21	10,266	707,131	14,518						
2006	1,589,218	2.20	10,657	723,305	14,734						
2007	1,619,036	2.19	11,060	739,541	14,955						
2008	1,648,852	2.18	11,508	755,823	15,226						
2009	1,678,672	2.17	11,899	772,141	15,410						
2010	1,708,490	2.17	12,335	788,487	15,644						
2011	1,741,090	2.16	12,806	806,383	15,881						
2012	1,773,692	2.15	13,326	824,298	16,166						

\* Population history re-estimated by BEBR.



Schedule 2.2 History and Forecast of Energy Consumption and Number of Customers by Customer Class								
		COMMERC	CIAL	Other	Tetal Calas			
Year	GWh	Average No. of Industrial Customer	Average KWh Consumption Per Customer	Sales GWh	Total Sales GWh			
1993	2,260	49,079	46,069	102	8,361			
1994	2,401	50,743	47,277	86	8,737			
1995	2,562	51,421	49,863	101	9,570			
1996	2,681	53,223	50,373	105	10,052			
1997	2,808	55,263	50,830	123	10,169			
1998	3,020	57,012	52,831	117	11,112			
1999	3,109	59,044	52,656	127	11,229			
2000	3,415	62,456	54,678	135	12,098			
2001	3,546	66,575	53,261	129	12,430			
2002	3,727	68,787	54,182	163	13,433			
2003	3,809	68,020	55,998	145	13,465			
2004	3,965	69,793	56,811	148	14,024			
2005	4,109	71,612	57,379	151	14,526			
2006	4,267	73,334	58,186	154	15,078			
2007	4,431	75,081	59,016	158	15,649			
2008	4,611	76,846	60,003	162	16,281			
2009	4,773	60,709	16,837	164	16,836			
2010	4,952	80,408	61,586	167	17,454			
2011	5,146	82,384	62,464	170	18,122			
2012	5,360	84,382	63,521	175	18,861			
NOTES:		class includes industrial class includes lighting cus						



	Schedule 2.3 History and Forecast of Energy Consumption and Number of Customers by Customer Class											
Year	GWh GWh Of Custor											
1993	0	964	9,326	3,304	571,071							
1994	0	914	9,651	3,341	585,764							
1995	0	1,052	10,622	3,366	601,618							
1996	0	770	10,822	3,349	618,553							
1997	0 828		10,997	10,997 3,515								
1998	0	0 929		3,586	656,566							
1999	0	939	12,168	3,593	669,696							
2000	0	994	13,092	3,765	689,487							
2001	0	864	13,294	4,092	710,956							
2002	0	1,057	14,490	5,123	735,243							
2003	0	1,345	14,812	4,072	745,316							
2004	0	1,166	15,191	4,160	764,069							
2005	0	1,212	15,738	4,254	782,997							
2006	0	1,258	16,336	4,334	800,973							
2007	0	1,306	16,955	4,419	819,041							
2008	0	1,355	17,637	4,501	837,170							
2009	0	1,405	18,242	4,583	855,345							
2010	0	1,457	18,911	4,667	873,562							
2011	0	1,512	19,635	4,758	893,525							
2012	0	1,571	20,431	4,851	913,511							



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Schedule 3.1.1 History and Forecast of Summer Peak Demand (MW) Base Case										
					Resid	ential	Comm	ercial		
Year	Total	Whole- sale	Retail	Interrup- tible	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand	
1993	1,994	1,994	0	N/A	70	N/A	N/A	N/A	1,924	
1994	1,993	1,993	0	N/A	60	N/A	N/A	N/A	1,933	
1995	2,329	2,329	0	N/A	112	N/A	N/A	N/A	2,217	
1996	2,347	2,347	0	N/A	95	N/A	N/A	N/A	2,252	
1997	2,443	2,443	0	N/A	123	N/A	N/A	N/A	2,320	
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	2,829	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	3,050	3,050	0	N/A	99	N/A	N/A	N/A	2,951	
2003	3,166	3,166	0	103	101	N/A	N/A	N/A	2,962	
2004	3,277	3,277	0	103	101	N/A	N/A	N/A	3,073	
2005	3,392	3,392	0	103	101	N/A	N/A	N/A	3,188	
2006	3,508	3,508	0	103	101	N/A	N/A	N/A	3,304	
2007	3,628	3,628	0	103	101	N/A	N/A	N/A	3,424	
2008	3,753	3,753	0	103	101	N/A	N/A	N/A	3,549	
2009	3,878	3,878	0	103	101	N/A	N/A	N/A	3,674	
2010	4,008	4,008	0	103	101	N/A	N/A	N/A	3,804	
2011	4,149	4,149	0	103	101	N/A	N/A	N/A	3,945	
2012	4,292	4,292	0	103	101	N/A	N/A	N/A	4,088	

NOTES: (1) Historical load management data is actual amount exercised at the time of the seasonal peak demand. Forecast data is the maximum amount available.

(2) Since 2000, Seminole's customer-based generation is included in the interruptible load column.



			Forecas	at of Summer	ule 3.1.2 · Peak Dema a Case	nd (MW)			
					Resid	ential	Comm	nercial	
Year	Total	Whole- sale	Retail	Interrup- tible	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
2003	3,339	3,339	0	103	101	N/A	N/A	N/A	3,135
2004	3,511	3,511	0	103	101	N/A	N/A	N/A	3,307
2005	3,689	3,689	0	103	101	N/A	N/A	N/A	3,485
2006	3,859	3,859	0	103	101	N/A	N/A	N/A	3,655
2007	4,036	4,036	0	103	101	N/A	N/A	N/A	3,832
2008	4,219	4,219	0	103	101	N/A	N/A	N/A	4,015
2009	4,404	4,404	0	103	101	N/A	N/A	N/A	4,200
2010	4,594	4,594	0	103	101	N/A	N/A	N/A	4,390
2011	4,807	4,807	0	103	101	N/A	N/A	N/A	4,603
2012	5,023	5,023	0	103	101	N/A	N/A	N/A	4,819



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			Forecas	t of Summer	ule 3.1.3 · Peak Dema / Case	nd (MW)							
<u></u>					Resid	ential	Comm	ercial					
Year	TotalWhole- saleRetailInterrup- tibleLoad Manage- mentConser- vationLoad Manage- 												
2003	2,920	2,920	0	103	101	N/A	N/A	N/A	2,716				
2004	2,952	2,952	0	103	101	N/A	N/A	N/A	2,748				
2005	2,985	2,985	0	103	101	N/A	N/A	N/A	2,781				
2006	3,036	3,036	0	103	101	N/A	N/A	N/A	2,832				
2007	3,086	3,086	0	103	101	N/A	N/A	N/A	2,882				
2008	3,139	3,139	0	103	101	N/A	N/A	N/A	2,935				
2009	3,191	3,191	0	103	101	N/A	N/A	N/A	2,987				
<b>2</b> 010	3,246	3,246	0	103	101	N/A	N/A	N/A	3,042				
2011	3,297	3,297	0	103	101	N/A	N/A	N/A	3,093				
2012	3,349	3,349	0	103	101	N/A	N/A	N/A	3,145				



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		·	History and I		ule 3.2.1 Winter Peak	Demand (M			
				Bas	e Case				
					Resid	ential	Comm	iercial	
Year	Total	Whole- sale	Retail	Interrup- tible	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
1992-93	2,196	2,196	0	N/A	84	N/A	N/A	N/A	2,112
1993-94	2,472	2,472	0	N/A	88	N/A	N/A	N/A	2,384
1994-95	2,825	2,825	0	N/A	159	N/A	N/A	N/A	2,666
1995-96	2,896	2,896	0	N/A	165	N/A	N/A	N/A	2,731
1996-97	3,040	3,040	0	N/A	128	N/A	N/A	N/A	2,912
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	3,148	3,148	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	4,248	4,248	0	N/A	118	N/A	N/A	N/A	4,130
2003-04	4,092	4,092	0	104	144	N/A	N/A	N/A	3,844
2004-05	4,243	4,243	0	104	144	N/A	N/A	N/A	3,995
2005-06	4,396	4,396	0	104	144	N/A	N/A	N/A	4,148
2006-07	4,555	4,555	0	104	144	N/A	N/A	N/A	4,307
2007-08	4,717	4,717	0	104	144	N/A	N/A	N/A	4,469
2008-09	4,883	4,883	0	104	144	N/A	N/A	N/A	4,635
2009-10	5,051	5,051	0	104	144	N/A	N/A	N/A	4,803
2010-11	5,230	5,230	0	104	144	N/A	N/A	N/A	4,982
2011-12	5,419	5,419	0	104	144	N/A	N/A	N/A	5,171
2012-13	5,610	5,610	0	104	144	N/A	N/A	N/A	5,362
NOTES	Forecast	data is the m	aximum amo	unt available	nount exercise eration is inclu			-	



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			Foreca	st of Winter	ule 3.2.2 Peak Demar 1 Case	ıd (MW)			
	-				Resid	ential	Comm	nercial	
Year	Total	Whole- sale	Retail	Interrup- tible	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
2003-04	4,328	4,328	0	104	144	N/A	N/A	N/A	4,080
2004-05	4,559	4,559	0	104	144	N/A	N/A	N/A	4,311
2005-06	4,786	4,786	0	104	144	N/A	N/A	N/A	4,538
2006-07	5,017	5,017	0	104	144	N/A	N/A	N/A	4,769
2007-08	5,252	5,252	0	104	144	N/A	N/A	N/A	5,004
2008-09	5,494	5,494	0	104	144	N/A	N/A	N/A	5,246
2009-10	5,738	5,738	0	104	144	N/A	N/A	N/A	5,490
2010-11	6,004	6,004	0	104	144	N/A	N/A	N/A	5,756
2011-12	6,285	6,285	0	104	144	N/A	N/A	N/A	6,037
2012-13	6,571	6,571	0	104	144	N/A	N/A	N/A	6,323



			Foreca	ist of Winter	ule 3.2.3 Peak Demar Case	ad (MW)			
					Resid	lential	Comm	nercial	
Year	Total	Whole- sale	Retail	Interrup- tible	Load Manage- ment	Conser- vation	Load Manage- ment Conser- vation		Net Firm Demand
2003-04	3,725	3,725	0	104	144	N/A	N/A	N/A	3,477
2004-05	3,772	3,772	0	104	144	N/A	N/A	N/A	3,524
2005-06	3,833	3,833	0	104	144	N/A	N/A	N/A	3,585
2006-07	3,904	3,904	0	104	144	N/A	N/A	N/A	3,656
2007-08	3,974	3,974	0	104	144	N/A	N/A	N/A	3,726
2008-09	4,047	4,047	0	104	144	N/A	N/A	N/A	3,799
2009-10	4,120	4,120	0	104	144	N/A	N/A	N/A	3,872
2010-11	4,191	4,191	0	104	144	N/A	N/A	N/A	3,943
2011-12	4,263	4,263	0	104	144	N/A	N/A	N/A	4,015
2012-13	4,335	4,335	0	104	144	N/A	N/A	N/A	4,087



		Histor	y and Forecast	Schedule 3.3 of Annual Ne Base Case	t Energy for L	.oad (GWh)		
Year	Total	Conse	rvation	Retail	Total	Utility Use	Net	Load
		Residential	Commercial	Retail	Sales	& Losses	Energy for Load	Factor %
1993	9,326	N/A	N/A	0	8,362	964	9,326	48.5
1994	9,651	N/A	N/A	0	8,735	914	9,651	45.9
1995	10,622	N/A	N/A	0	9,572	1,052	10,622	44.0
1996	10,822	N/A	N/A	0	10,052	770	10,822	39.1
1997	10,997	N/A	N/A	0	10,170	828	10,997	42.4
1998	12,041	N/A	N/A	0	11,112	929	12,041	49.8
1999	12,168	N/A	N/A	0	11,229	939	12,168	44.5
2000	13,092	N/A	N/A	0	12,098	994	13,092	46.6
2001	13,294	N/A	N/A	0	12,430	864	13,294	41.9
2002	14,490	N/A	N/A	0	13,433	1,057	14,490	46.6
2003	14,812	N/A	N/A	0	13,465	1,347	14,812	45.0
2004	15,191	N/A	N/A	0	14,025	1,166	15,191	45.0
2005	15,738	N/A	N/A	0	14,526	1,212	15,738	45.0
2006	16,336	N/A	N/A	0	15,078	1,258	16,336	44.9
2007	16,955	N/A	N/A	0	15,649	1,306	16,955	44.9
2008	17,637	N/A	N/A	0	16,282	1,355	17,637	44.9
2009	18,242	N/A	N/A	0	16,837	1,405	18,242	44.9
2010	18,911	N/A	N/A	0	17,454	1,457	18,911	44.9
2011	19,635	N/A	N/A	0	18,123	1,512	19,635	45.0
2012	20,431	N/A	N/A	0	18,860	1,571	20,431	45.1



		Histor	y and Forecast	Schedule 3.3 of Annual Net High Case	Energy for L	oad (GWh)		
V	Tetal	Conse	rvation			Utility Use	Net	Load
Year	Total	Residential	Commercial	Retail	Wholesale	& Losses	Energy for Load	Factor %
2003	15,473	N/A	N/A	0	14,281	1,192	15,473	45.6
2004	16,388	N/A	N/A	0	15,128	1,260	16,388	45.6
2005	17,250	N/A	N/A	0	15,920	1,330	17,250	45.6
2006	18,129	N/A	N/A	0	16,731	1,398	18,129	45.6
2007	19,037	N/A	N/A	0	17,569	1,468	19,037	45.6
2008	20,023	N/A	N/A	0	18,482	1,541	20,023	45.6
2009	20,927	N/A	N/A	0	19,313	1,614	20,927	45.6
2010	21,911	N/A	N/A	0	20,220	1,691	21,911	45.6
2011	23,000	N/A	N/A	0	21,226	1,774	23,000	45.6
2012	24,182	N/A	N/A	0	22,320	1,862	24,182	45.7



		Histor	y and Forecast (	Schedule 3.3 of Annual Net Low Case	Energy for L	oad (GWh)		
Year	Total	Conse Residential	rvation Commercial	Retail	Wholesale	Utility Use & Losses	Net Energy for Load	Load Factor %
2003	13,489	N/A	N/A	0	12,451	1,038	13,489	45.0
2004	13,703	N/A	N/A	0	12,650	1,053	13,703	45.0
2005	13,855	N/A	N/A	0	12,789	1,066	13,855	45.0
2006	14,120	N/A	N/A	0	13,032	1,088	14,120	45.0
2007	14,395	N/A	N/A	0	13,287	1,108	14,395	45.0
2008	14,716	N/A	N/A	0	13,585	1,131	14,716	45.0
2009	14,964	N/A	N/A	0	13,812	1,152	14,964	45.0
2010	15,258	N/A	N/A	0	14,083	1,175	15,258	45.0
2011	15,540	N/A	N/A	0	14,342	1,198	15,540	45.0
2012	15,869	N/A	N/A	0	14,649	1,220	15,869	45.1



	Pi		2-Year Forecast of H Energy for Load by		nand	
	2002	Actual	2003 Fc	precast	2004 Fo	orecast
Month	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	Peak Demand MW	NET GWh
January	3,566	1,176	4,130	1,455	3,844	1,279
February	3,329	959	3,285	1,062	3,536	1,143
March	3,065	1,058	2,601	1,042	2,706	1,083
April	2,499	1,107	2,267	1,038	2,360	1,080
May	2,820	1,280	2,769	1,296	2,879	1,346
June	2,887	1,275	2,794	1,304	2,902	1,353
July	2,951	1,387	2,905	1,444	3,015	1,498
August	2,925	1,385	2,962	1,466	3,073	1,520
September	2,769	1,361	2,840	1,328	2,949	1,378
October	2,707	1,247	2,542	1,089	2,643	1,132
November	2,463	1,042	2,529	1,063	2,633	1,105
December	2,935	1,213	3,233	1,225	3,363	1,274
ANNUAL		14,490		14,812		15,191

Schedule 4



						S	chedule 5							
					_	Fuel	Requirem	ents		_				
			Ac	tual										
Fuel Requ	irements	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	201
Nuclear		Trillion BTU	1	1	1	1	1	1	1	1	1	1	1	1
Coal		1000 Tons	3,603	3,582	3,882	3,753	3,634	3,803	3,731	3,790	3,910	3,832	3,833	3,87
Residual	Total	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	сс	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	1000 	0	0	0	0	0	0	0	0	0	0	0	0
	Diesel	1000 BBL	0	0	0	0	0	0	0	0	0	· 0	0	0
Distillate	Total	1000 BBL	41	42	42	42	42	42	78	162	233	359	437	51
	Steam	1000 BBL	41	42	42	42	42	42	42	42	42	42	42	42
	сс	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	1000 BBL	0	0	0	0	0	0	36	120	191	317	395	47:
	Diesel	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	Total	1000 MCF	0	17783	17923	17756	19630	19757	22389	25409	37140	51665	55465	590
	Steam	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
	сс	1000 <u>MC</u> F	0	17783	17923	17756	19630	19754	21544	22628	32704	44308	46295	4804
	СТ	1000 MCF	0	0	0	0	0	3	845	2781	4436	7357	9170	110
Other Purchases	QF	Trillion BTU	1,921	1,666	1,158	1,868	2,284	1,680	2,558	2,720	1,943	2,272	2,861	2,88



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							chedule 6 Sources							
			Ac	tual										
Energy S	ources	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2013
Annual Intercha		GWh	3,979	2,845	2,311	2,852	3,421	3,607	3,980	4,073	2,844	1,606	1,731	1,86
Nucle	ear	GWh	111	124	102	120	102	119	102	120	102	. 119	102	120
Coa	1	GWh	8,995	8,941	9,739	9,500	9,185	9,629	9,443	9,602	9,920	9,722	9,726	9,84
Residual	Total	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	сс	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
Distillate	Total	GWh	0	0	0	0	0	0	19	67	108	183	230	280
	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	сс	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	GWh	0	0	0	0	0	0	19	67	108	183	230	280
	Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	Total	GWh	0	2,371	2,525	2,500	2,765	2,784	3,111	3,456	5,039	7,016	7,511	7,984
	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	сс	GWh	0	2,371	2,525	2,500	2,765	2,783	3,035	3,188	4,607	6,285	6,589	6,86:
	СТ	GWh	0	0	0	0	0	1	76	268	432	731	922	1,119
Other	QF	GWh	209	209	135	219	265	197	300	319	229	265	335	340
Net Energy	for Load	GWh	13,294	14,490	14,812	15,191	15,738	16,336	16,955	17,637	18,242	18,911	19,635	20,43

NOTES: Annual Firm Interchange consists of all purchases per contracts except the TPS purchase. The QF purchase represents a purchase from TPS's Hardee Power Station.



							chedule 6 Sources (							
			Ac	tual			3005				2000	2010	2011	
Energy S	sources	Units	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	201:
Annual Interch		%	30	20	16	19	22	22	23	23	16	8	9	9
Nucl	ear	%	1	1	1	1	1	1	1	1	1	1	1	1
Co	al	%	68	62	66	63	58	59	56	54	54	51	50	48
Residual	Total	%	0	0	0	0	0	0	0	0	0	0	0	0
	Steam	%	0	0	0	0	0	0	0	0	0	0	0	0
	СС	%	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
	Diesel	%	0	0	0	0	0	0	0	0	0	· 0	0	0
Distillate	Total	%	0	0	0	0	0	0	0	0	1	1	1	1
	Steam	%	0	0	0	0	0	0	0	0	0	0	0	0
	СС	%	0	0	0	0	0	0	0	0	0	0	0	0
	СТ	%	0	0	0	0	0	0	0	0	1	1	1	1
	Diesel	%	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	Total	%	0	16	17	16	18	17	18	20	28	37	38	39
	Steam	%	0	0	0	0	0	0	0	0	0	0	0	0
	сс	%	0	16	17	16	18	17	18	18	25	33	33	34
	СТ	%	0	0	0	0	0	0	0	2	3	4	5	5
Other	QF	%	2	1	1	1	2	1	2	2	1	1	2	2
Net Energy	for Load	%	100	100	100	100	100	100	100	100	100	100	100	100

Annual Firm Interchange consists of all purchases per contracts except the TPS purchase. The QF purchase represents a purchase from TPS's Hardee Power Station.



### 2.3 Forecast Assumptions

2.3.1 Economic and Demographic Data. Seminole's economic and demographic data base has three principal sources: (1) population and income data from the Florida Economic Data Base furnished by the Bureau of Economic and Business Research (BEBR) at the University of Florida, (2) electricity price data from Seminole's member cooperatives "Financial and Statistical Reports" (RUS Form 7), and (3) 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 data on population and personal income by county is obtained for the 45 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 BEBR: medium, low, and high scenarios. Historical population growth trends are analyzed to determine the most appropriate combination of scenarios for each member system. High and low population scenarios are developed for each member.

The commercial/industrial energy usage model uses Real Per Capita Income (RPCI) as an explanatory variable. 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. Forecasts of RPCI by county are taken from "The Florida Long-Term Economic Forecast 2000."

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 decline in the future at an average annual rate of 0.987%. This rate is based on system wide historical declines in retail rates.

Appliance saturations and housing data are obtained from Seminole's Residential Appliance Survey. The three housing types distinguished in the survey are single-family homes, mobile homes, and multi-family homes. Homes are also segregated into three age groups: less than 5 years old, between 5 and 15 years old, and more than 15 years old. For each category of home type and age combination, the appliance saturations include room air-conditioners, central air-conditioners, electric space-heating appliances, and electric water heaters.

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 members' service area. In order 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 and cooling degree hours (HDH, CDH) are used in the energy usage models, while the peak demand models use HDH and CDH on Seminole's peak days. Seminole uses individual temperature cut-off points for air conditioning and space heating demand. The extent of the members' service territory also requires different winter cut-off values for the northern and southern regions. These weather variables have been proven effective in explaining weather-neutral temperature ranges for space-conditioning appliances and lagging weather



effects within a period of time.

**2.3.3** Sales and Hourly Load Data. Monthly operating statistics have been furnished by the member systems to Seminole, beginning with 1970. Included in this data are statistics by class on number of consumers, KWH sales, revenue, and others. 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 are collected from over 160 delivery points, covering the period from January 1979 to the present. This data is a basis for modeling peak demand and hourly load profile forecasts, and for load management implementation.

#### 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, since each member system is modeled and



forecast separately. Figure 1 shows the Integrated Forecasting System.

2.4.1 Consumer Models. For each member, the historical relationship between annual consumers and the member's service area population is statistically determined using an ordinary least squares technique, with a first-order auto-regressive correction when necessary. The estimated equations are applied to the population forecasts to generate annual forecasts of residential and commercial consumers. Forecasts are benchmarked using 2000 actual data. Seasonally adjusted monthly forecasts are developed from the annual data. Whenever members expect new large commercial consumers in the near future, the information is implemented in the forecasts.

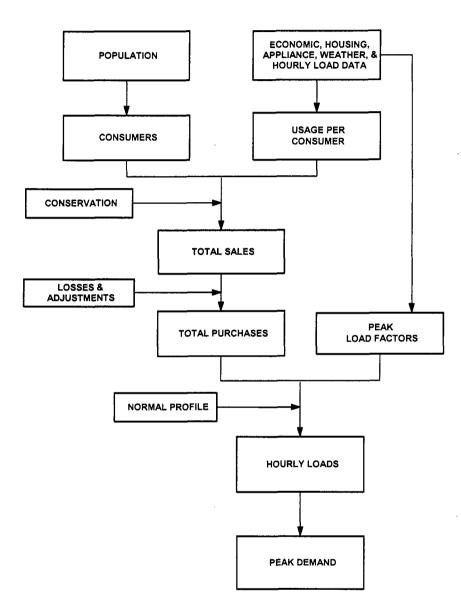
Other consumer classes generally include irrigation, street and highway lighting, public buildings, and sales for resale, which represent less than 2 percent of Seminole's members' total energy sales. Some member systems include some of these classes in the commercial/industrial sector. For the others, 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 spaceheating 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 of each home type are produced: single-family homes, mobile homes, and multi-family homes. 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.



## Figure 1

## Integrated Forecasting System





2.4.3 Energy Usage Models. The Residential Energy Usage Model is a combination of econometric and end-use methods. For each member system, monthly residential usage is modeled using ordinary least squares as a function of explanatory variables including heating and cooling degree variables weighted with space-conditioning appliances, real price of electricity and real per capita income. Monthly forecasts are benchmarked against weather-normalized energy in the last year of the analysis period. Then the monthly usage per consumer forecasts are multiplied by the monthly residential consumer forecasts to produce monthly residential energy sales forecasts.

For each member system, monthly commercial/industrial usage per consumer is modeled as a function of several explanatory variables, which include monthly heating and cooling degree variables, real price of electricity, real per capita income, and dummy variables for some member systems to explain abrupt or external changes. Some members' models use monthly precipitation variables because irrigation consumers are included in this classification. Ordinary least squares methodology with a first order auto-regressive correction is used to produce the monthly energy usage per consumer forecasts which are adjusted for the last year of the historical period. Then the forecasts are combined with the consumer forecasts to produce monthly commercial/industrial KWH sales forecasts. Whenever members expect new large commercial consumers in the near future, the information is implemented in the forecasts.

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 Sales and Purchases. The sales forecasts for Residential,



Commercial/Industrial and Other classes are summed up for a total sales forecast by month for each member system. The sales forecast is converted to member purchases at delivery point levels using historical averages of the ratio of calendar month purchases to billing cycle sales for each member. Therefore, these adjustment factors represent both energy losses and the difference between the billing cycle sales and calendar month purchases; the latter, as a function primarily of weather and billing days, often changes erratically.

2.4.5 Peak Demand Load Factor Model. The Peak Demand Load Factor Model relates monthly peak load factors to a set of explanatory variables including 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 of November through March and the other for the summer months April through October. The forecast monthly load factors are combined with the purchases forecasts to produce forecasts of monthly peaks by member.

**2.4.6 Hourly Load Profiles**. Hourly demand forecasts are created through a calibration procedure which transforms the normal profiles in such a way that maximum peak, monthly minimum, and monthly energy match the monthly forecasts generated from the above-explained forecasting process. This calibration procedure produces hourly profile forecasts by month and by member, an aggregation of which then constitutes hourly profiles for Seminole system.

2.4.7 Scenarios. An economic scenario is developed in addition to the base case. In lieu of economic scenarios, population which is the main driving force behind Seminole's load growth, is tested, and high and low population growth scenarios are developed for each member system based on BEBR's alternative scenario.



#### **3. FORECAST OF FACILITIES REQUIREMENTS**

Seminole's load is located primary within three control areas, Progress Energy ("PE") formerly Florida Power Corporation, Florida Power & Light Company ("FPL"), and Seminole's Direct Service Area ("SDS"). Seminole is obligated to serve all load in the FPL and SDS areas, and load up to a specified capacity commitment level in the PE area. 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. Demand in excess of the specified PE capacity commitment level is served through partial requirement (PR) purchases from PE. As load grows, Seminole's PR supplier is responsible for providing capacity to meet load growth and associated reserves above the capacity commitment levels.

Seminole issued an all source RFP in July 2000 which resulted in a contract for 350 MW of combined cycle capacity from the Calpine Energy Services, L.P., Osprey Energy Center for a twenty (20) year period beginning June 2004 with prices re-openers every 5 years. Seminole also has the option to call on the remainder of the unit capacity (approximately 177 MW) subject to prior sales.

Seminole issued another all source RFP in March 2002 for 460 MW of capacity which resulted in a contract for 150MW of system peaking capacity for the period from December 2006 through 2013 with Progress Energy with the option to convert to system intermediate, and 310 MW of self build aero-derivative peaking capacity to be built at or near the Payne Creek site.

Seminole has a FERC-filed qualifying facility program which complies with the requirements of the Public Utility Regulatory Policies Act (PURPA). In 1999, Seminole entered



into a power purchase agreement with a qualifying facility, Lee County Resource Recovery, for approximately 35 MW of capacity. Seminole does not currently have any other qualifying facilities or small power producers on its system, but continues to solicit proposals from them when competitively bidding for power supplies. Also, Seminole evaluates all unsolicited QF proposals for applicability to the cooperative's needs.

Schedules 7.1, 7.2 and 8 include the addition of a total of 2,130 MW of capacity in 2006 through 2012 at Payne Creek 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 of an approximation of the most economic mix of resource types. Future studies will optimize the amount, type, and timing of such capacity. Because the units at unknown sites are for planning purposes only, no Schedule 9 is included for these units. The addition of this capacity, at sites to be determined by Seminole, is Seminole's "Backstop" expansion plan.

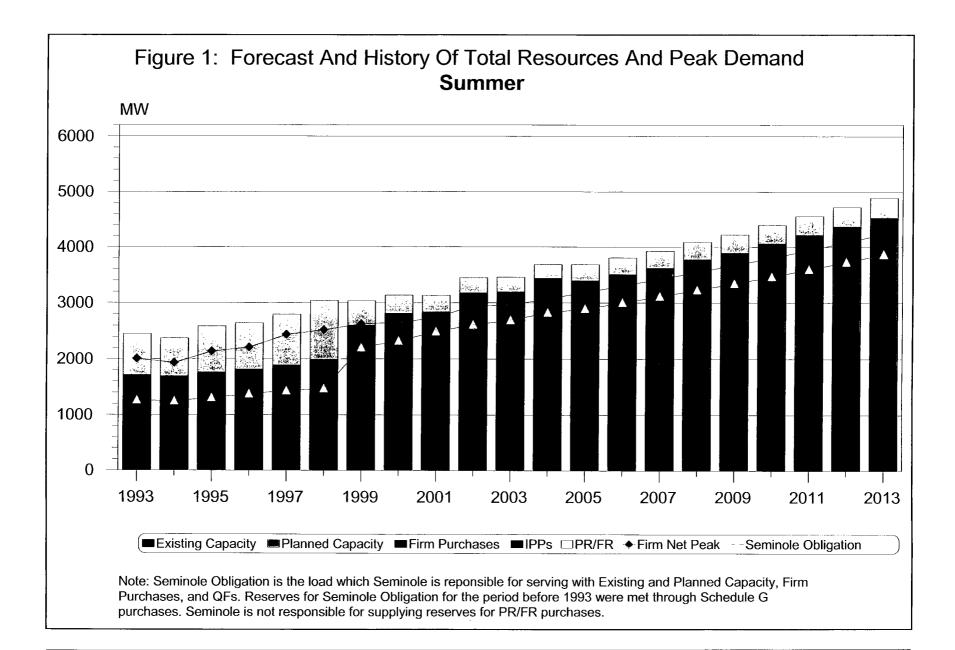


#### Schedule 7.1

### Forecast of Capacity, Demand and Scheduled Maintenance at Time of Summer Peak

	Total Installed Capacity	Firm Capacity Import (Less PR/FR)	Firm Capacity Import (PR/FR)	Firm Capacity Export	QF2	Total Capacity Available	Total Capacity Available Less PR/FR	System Firm Summer Peak Demand	System Firm Summer Obligation <sub>3</sub>	В	ve Margin efore tenance4	Scheduled Main- tenance		ve Margin After itenance4
	(MW)	(MW)	( <u>MW</u> )	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)_	(% of Pk)	(MW)	(MW)	(% of Pk)
2003	1,819	1,047	270	0	328	3,464	3,194	2,962	2,692	502	19%	0	502	19%
2004	1,819	1,292	250	0	328	3,689	3,439	3,073	2,823	616	22%	0	616	22%
2005	1,819	1,278	295	0	298	3,690	3,395	3,188	2,893	502	17%	0	502	17%
2006	1,819	1,390	303	0	298	3,810	3,507	3,304	3,001	506	17%	0	506	17%
2007	2,089	1,234	310	0	298	3,931	3,621	3,424	3,114	507	16%	0	507	16%
2008	2,242	1,234	320	0	298	4,094	3,774	3,549	3,229	545	17%	0	545	17%
2009	2,701	894	330	0	298	4,223	3,893	3,674	3,344	549	16%	0	549	16%
2010	3,313	450	338	0	298	4,399	4,061	3,804	3,466	595	17%	0	595	17%
2011	3,466	450	346	0	298	4,560	4,214	3,945	3,599	615	17%	0	615	17%
2012	3,619	450	357	0	298	4,724	4,367	4,088	3,731	636	17%	0	636	17%
1	Firm capacity includes partial requirements (PR) and full requirements (FR) purchases and purchases from other supplier.													
2	The capacity shown under QF represents a contract with TECO Power Services for first-call capacity from the Hardee Power Station to backup 1240 MW of generation from Seminole Units 1 and 2 and CR#3, and a purchase from Lee County Resource Recovery Facility.													
3	Seminole's firm obligation demand does not include PR and FR purchases.													
4	Percent reserves are calculated on Seminole's obligation since Seminole is not responsible for supplying reserves for FR and PR purchases. Seminole's reserve capacity does not include FPC peaking and intermediate purchases.													

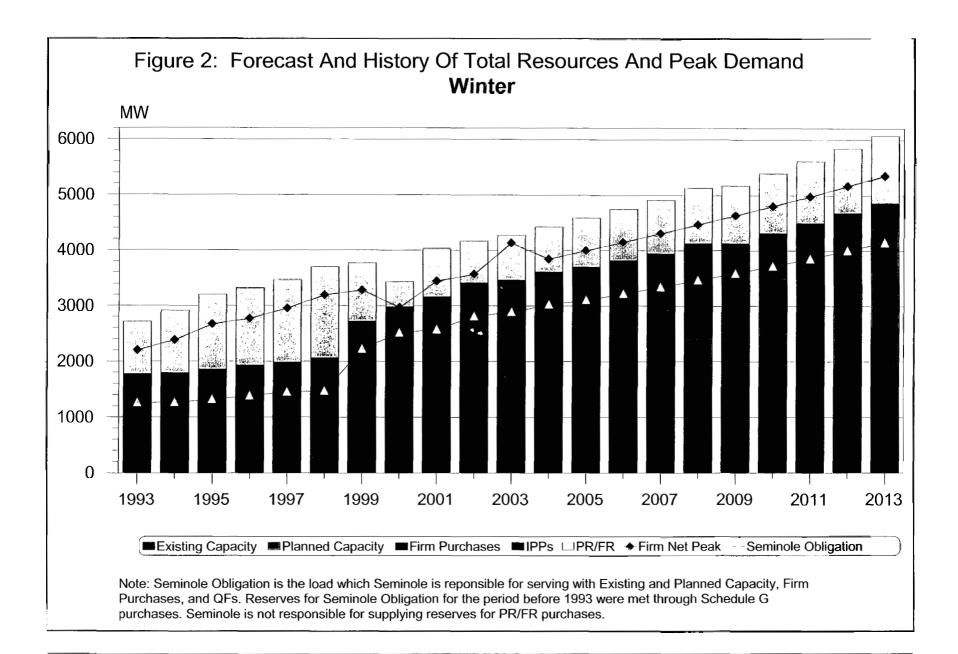






	Schedule 7.2													
	Forecast of Capacity, Demand and Scheduled Maintenance at Time of Winter Peak													
	Total Installed Capacity	Firm Capacity Import (Less PR/FR) <sub>1</sub>	Firm Capacity Import (PR/FR)	Firm Capacity Export	QF <sub>2</sub>	Total Capacity Available	Total Capacity Available Less PR/FR	System Firm Winter Peak Demand	System Firm Winter Obligation <sub>3</sub>	Be	e Margin fore enance₄	Scheduled Reserve Ma Main- After tenance Maintenar		After
	(MW)	(MW)	( <u>M</u> W)	(MW)	(MW)	( <u>MW</u> )	. <u>(MW)</u>	(MW)	(MW)	(MW)	(% of Pk)	_(MW)	(MW)	(% of Pk)
2003/04	1,917	1,294	820	0	397	4,428	3,608	3,844	3,024	584	19%	0	584	19%
2004/05	1,917	1,420	893	0	362	4,592	3,699	3,995	3,102	597	19%	0	597	19%
2005/06	1,917	1,538	931	0	362	4,748	3,817	4,148	3,217	600	19%	0	600	19%
2006/07	2,227	1,356	969	0	362	4,914	3,945	4,307	3,338	607	18%	0	607	18%
2007/08	2,409	1,356	1,007	0	362	5,134	4,127	4,469	3,462	665	19%	0	665	19%
2008/09	2,409	1,356	1.048	0	362	5,175	4,127	4,635	3,587	540	15%	0	540	15%
2009/10	3,501	450	1,086	0	362	5,399	4,313	4,803	3,717	596	16%	0	596	16%
2010/11	3,683	450	1,126	0	362	5,621	4,495	4,982	3,856	639	17%	0	639	17%
2011/12	3,865	450	1,172	0	362	5,849	4,677	5,171	3,999	678	17%	0	678	17%
2012/13	4,411	450	1,215	0	0	6,076	4,861	5,362	4,147	714	17%	0	714	17%
1	1 Firm capacity includes partial requirements (PR) and full requirements (FR) purchases and purchases from other supplier.													
2	The capacity shown under QF represents a contract with TECO Power Services for first-call capacity from the Hardee Power Station to backup 1240 MW of generation from Seminole Units 1 and 2 and CR#3 and a purchase from Lee County Resource Recovery Facility.													
3	Seminole	Seminole's firm obligation demand does not include PR and FR purchases.												
4		Percent reserves are calculated on Seminole's obligation since Seminole is not responsible for supplying reserves for FR and PR purchases. Seminole's reserve capacity does not include FPC peaking and intermediate purchases.												







	Schedule 8													
-	Planned and Prospective Generating Facility Additions and Changes													
<u>.</u>	Ι			F	Fuel Fuel Transport									
Plant Name	Unit No.	Location (County)	Unit Type	Ргі	Alt	Pri	Alt	Construction Start Mo/Yr	Comm'l In-Service Mo/Yr	Expected Retirement Mo/Yr	Maximum Nameplate (kW)	Summer (MW)	Winter (MW)	Status
Payne Creek	GT-A	Hardee	GT	NG	DFO	PL	тк	02/2006	12/2006	Unk	62	54	62 -	Р
	GT-B	Hardee	GT	NG	DFO	PL	тк	02/2006	12/2006	Unk	62	54	62	Р
	GT-C	Hardee	GТ	NG	DFO	PL	тк	02/2006	12/2006	Unk	62	54	62	Р
	GT-D	Hardee	GT	NG	DFO	PL	тк	02/2006	12/2006	Unk	62	54	62	Р
	GT-E	Hardee	GT	NG	DFO	PL	тк	02/2006	12/2006	Unk	62	54	62	Р
Unk	CC-1	Unk	сс	NG	N/A	PL	N/A	06/2008	06/2009	Unk	193	153	182	Р
	CC-2	Unk	сс	NG	N/A	PL	N/A	06/2008	06/2009	Unk	193	153	182	Р
	CC-3	Unk	сс	NG	N/A	PL	N/A	12/2008	12/2009	Unk	193	153	182	Р
Unk	GT-1	Unk	GT	NG	DFO	PL	тк	12/2006	12/2007	Unk	193	153	182	P
	GT-2	Unk	GT	NG	DFO	PL	тк	06/2008	06/2009	Unk	193	153	182	Р
	GT-3	Unk	GT	NG	DFO	PL	тк	12/2008	12/2009	Unk	193	153	182	Р
	GT-4	Unk	GT	NG	DFO	PL	тк	12/2008	12/2009	Unk	193	153	182	Р
	GT-5	Unk	GT	NG	DFO	PL	тк	06/2009	06/2010	Unk	193	153	182	Р
-	GT-6	Unk	GT	NG	DFO	PL	тк	06/2010	06/2011	Unk	193	153	182	Р
	GT-7	Unk	GT	NG	DFO	PL	тк	06/2011	06/2012	Unk	193	153	182	Р
Total												1,800	2,130	
Notes:	Unk:	Unknown	ł		1									
	U:	Regulator	y appro	oval rece	ived. Un	der cons	truction.							
	P:	Planned, t	anned, but not authorized by utility.											



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### 4. OTHER PLANNING ASSUMPTIONS AND INFORMATION

#### 4.1 Transmission Constraints

Seminole analyzes the transmission system impacts resulting from its expansion plans using the FRCC load flow databank transmission model. In Seminole's current Ten Year Plan there are no firm new sited units (i.e., assuming Seminole purchases future capacity thru PPAs).

#### 4.2 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). The option with the lowest PWRR is normally selected, all other things being equal. 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, capital costs of new generation, etc).

#### 4.3 Fuel Price Forecast

**4.3.1 Coal**. The base forecast anticipates that price increases for coal will be less than IPD because of continued improvements in productivity enabling industry wide production to outpace growth in demand. Thus, the moderate over-supply and competitive pricing which has typified the industry in recent years is expected to continue, resulting in the forecast for only moderate price increases.

The high case projects that prices will grow in the ball park of IPD because of a cessation of historic improvements in productivity leading to a tighter supply-demand relationship. The low case projects a decrease in prices as a result of technological advances which reduce the impact of labor



cost and increase production causing an over-supply of coal with such vigorous price competition that prices actually decrease.

**4.3.2 Oil**. The base case forecasts oil price growth in the range of IPD resulting from relative stability over the long term in the producing regions, no armed conflicts which disrupt oil production or transportation over an extended periods, and continued world-wide improvements in the energy efficiency of national economies.

The high case assumes that OPEC becomes very aggressive in restricting production, that members adhere to production quotas, that armed conflict causes moderate disruptions in world-wide distribution of oil, and that developing economies and growth of world-wide transportation spur growth in consumption, all of which leads to rapid price increases. Conversely, the low oil price case presumes that OPEC in unable to enforce production quotas, that non-OPEC countries increase production as a result of new discoveries and improved recovery from existing fields, all of which combines to continue the trend of recent years with declining prices.

**4.3.3** Natural Gas. The base case reflects price increases as a result of the current trends, returning to lower prices after four years.

The high case assumes a more rapid increase in price because technology ceases to improve, there is a gradual exhaustion of reserves with attendant declines in production coupled with continued growth in market demand. The low case forecasts a decrease in prices as a result of rapid exploitation of new technological innovations which dramatically increase recovery from existing well fields at reduced cost, discovery of major new reserve fields, and reduction in the cost of bringing new well into production. Under this scenario supply would significantly exceed demand leading to actual decreases in price.



#### 4.4 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 designed performance data.

4.5 Financial Assumptions

Expansion plans are evaluated based on Seminole's forecast of RUS guaranteed loan fund rates. The plans are tested with a sensitivity using financing rates forecast for funds other than RUS guaranteed funds in the event that the RUS funds are not available.

#### 4.6 Integrated Resource Planning Process

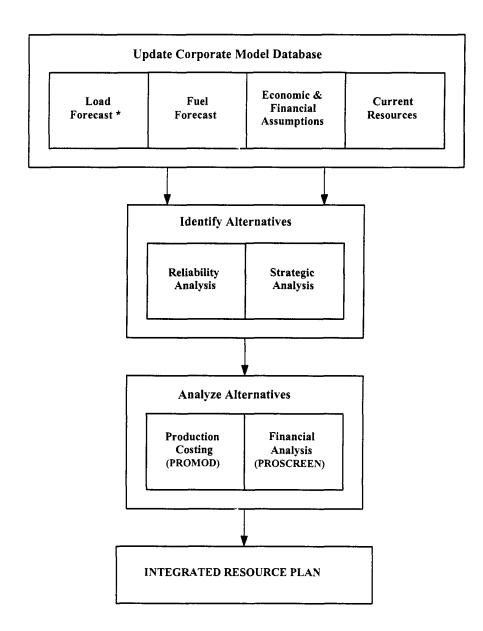
Seminole's primary long-range planning goal is to develop the most cost-effective way to meet its members' load requirements while maintaining high system reliability. Seminole's optimization process for resource selection is based primarily on total revenue requirements. For a not-for-profit cooperative, 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 on the next page.

The impact of demand-side management (DSM) and conservation is accounted for in Seminole's planning process by incorporating demand and energy reductions from conservation and DSM efforts into the load forecast. Additional impacts from Seminole's Coordinated Load Management Program are incorporated during the preparation of the Power Requirements Study.



## Figure 3

### Resource Planning Process



\* The Load Forecasting process is detailed in Section 2.4, "Forecasting Methodology"



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 FPC area, but instead reduces the amount of PR purchases required from FPC.

### 4.7 Reliability Criteria

Beginning in the mid-80's, Seminole planned to a 1% Expected Unserved Energy (EUE) criterion which resulted in a reserves percent higher than the FRCC 15% minimum requirement. Starting in 1999, Seminole also used a minimum 15% system peak reserve margin as an additional reliability criterion. As Seminole's system and resources have grown and diversified, the two criteria have converged and reserve margin became the driving criterion. In 2002, Seminole reevaluated the reserve criteria and added an additional requirement to plan for unrestricted reserve capacity equal to 15% of the winter weather sensitive load. This additional criterion was determined to be prudent due to the amount of weather sensitive load in Seminole's total obligation and the restrictions on the use of Hardee Power Station capacity.

#### 4.8 Strategic Concerns

In the current rapidly changing utility industry, strategic concerns are becoming increasingly important. Seminole presently, as in the past, has not quantified the financial impact of strategic concerns such as length of contracts, own vs purchase, etc. However, Seminole continues to evaluate a wide variety of options to meet future power requirements, as explained below under "Procurement of Supply-Side Resources".

### 4.9 **Procurement of Supply-side Resources**

Seminole plans to continue to use the all-sources RFP process as the primary means of filling its power supply needs. Seminole solicits proposals from turnkey contractors, utilities, independent



power producers, qualifying facilities and power marketers as well as demand side options.

### 4.10 Transmission Plans

Seminole currently has no firm plans for transmission construction or upgrades subject to the Transmission Line Siting Act (TLSA). Seminole plans to build approximately 2.0 miles of double circuit 230 kV line to loop the Hardee to Lee Line into FP&L's Charlotte Substation. This project is for the purpose of improving the reliability of service. The table on the next page lists all 69 kV and above Transmission Line Projects planned by Seminole Member Distribution Cooperatives over the ten year planning horizon.



	Transmiss	ion Line Proje	ects		
Owner	Line Terminal From	Line Terminal	Line	Commercial	Nominal
		То	Miles	In-service	Voltage
				Date	(kV)
Central Florida	Fanning Springs	Fanning Springs	3.0	2007	69
	Lebanon Tap	Lebanon	0.5	2009	69
	Suwannee Tap	Suwannee	16.0	2004	69
	Fanning Springs	Georgia Pacific	6.0	2007	69
Clay	Hickman Tap	Hickman	6.0	2004	115
	Black Creek	Jacksonville	6.31	Planned	115
		Heights			
	Jacksonville	Belair West	1.79	Planned	115
	Heights				
	Belair West	Ridgewood Tap	0.24	Planned	115
	Ridgewood Tap	Ridgewood	2.0	Planned	115
	Bland	Worthington	5.17	Planned	115
	Worthington	Brooker	6.71	Planned	115
	Brooker	TP-8	9.98	Planned	115
	TP-8	New River	6.87	Planned	115
	New River	Water Oak	6.8	Planned	115
	TP-8	Waldo	9.1	Planned	115
	Keystone Heights	TP-8	12.5	Planned	230
Glades	None				
Lee County	Kismet	Del Prado	0.5	2004	230
	Burnt Store	Pine Island	5.0	2004	138
	Burnt Store	Trafalgar	5.0	2004	138
	Burnt Store	West Cape	3.7	2004	138
	West Cape	West Cape Tap	2.0	2004	138



Transmission Line Projects							
Owner	Line Terminal From	Line Terminal	Line	Commercial	Nominal		
		То	Miles	In-service	Voltage		
				Date	(kV)		
Lee County	Cape Coral	Cape Coral Tap	1.0	2005	138		
	Piney	Tropic Isles	2.0	2006	138		
	North Cape	Del Pardo	10.0	2007	138		
Peace River	FPL Tap	Parrish #2	2.0	2005	230		
	Murphy Tap	Murphy	20.0	2007	69		
	Indian Lks Es Tap	Indian Lks EstateS	22.0	2009	69		
	FPL Tap	Ellenton	2.0	2007	230		
Sumter	Villages South Tap	Villages	10.0	2006	69		
	Oak Bend Tap	Oak Bend	5.0	2006	69		
	Westwood Ac Tap	Westwood Acres	7.0	2004	69		
Suwannee	None						
Talquin	Lowry Tap	Lowry	4.0	2004	115		
	Buck Lake	Chaires	4.2	2006	115		
	Crawfordville Tap	Crawfordville	2.0	2007	69		
Tri-County	St. Augustine Tap	St Augustine	0.25	2003	115		
	Blue Springs Tap	Deer Park Water Plt	2.5	2003	115		
Withlacoochee	Bexley Tap	Bexley	0.1	2010	115		
	Darby	Elam	7.0	2011	115		
	Hexam Tap	Hexam	0.1	2003	115		
	New River Tap	New River	2.3	2003	69		
	Hays Road Tap	Hays Road	2.1	2008	115		
	Hays Road	Pasco Trails	4.9	2008	115		
	Connerton Tap	Connerton	3.0	2005	115		
	New Port Richey	Ridge	4.2	2006	115		



	Transmiss	ion Line Proje	cts	ľ	
Owner	Line Terminal From	Line Terminal To	Line Miles	Commercial	Nominal Voltage
				Date	(kV)
Withlacoochee	Ridge	Connerton	11.0	2009	115
	Spring Hill 3 Tap	Spring Hill 3	0.2	2005	115



	Schedule 9 Status Report and Specifications of Proposed Generating Facilities						
1	Plant Name & Unit Number	Payne Creek GT - A thru E					
2	Capacity						
	a. Summer (MW):	54					
	b. Winter (MW):	62					
3	Technology Type:	Gas Turbine					
4	Anticipated Construction Timing						
	a. Field construction start-date:	February 2006					
	b. Commercial in-service date:	December 2006					
5	Fuel						
	a. Primary fuel:	Natural Gas					
	b. Alternate fuel:	Distillate Oil					
6	Air Pollution Control Strategy	Low Nox Comb. w/ water injection, Natural Gas, LS #2					
7	Cooling Method:	N/A					
8	Total Site Area:	Not available at this time					
9	Construction Status:	Planned					
10	Certification Status:	Planned					
11	Status With Federal Agencies	EPA: Permit Submittal December 2003					
		RUS: Permit Submittal December 2003					
12	Projected Unit Performance Data						
	Planned Outage Factor (POF):	0.5					
	Forced Outage Factor (FOF):	3.0					
	Equivalent Availability Factor (EAF):	96.5					
	Resulting Capacity Factor (%):	1% - 10%					
	Average Net Operating Heat Rate (ANOHR):	10,400					
13	Projected Unit Financial Data (\$2007)						
	Book Life (Years):	20					
	Total Installed Cost (In-Service Year \$/kW):	N/A					
	Direct Construction Cost (\$/kW):	N/A					
	AFUDC Amount (\$/kW):	N/A					
	Escalation (\$/kW):	N/A					
	Fixed O&M (\$/kW-Yr):	N/A					
	Variable O&M (\$/MWH):	N/A					
	K Factor:	N/A					



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### Schedule 10

# Status Report and Specifications of Proposed Associated Transmission Lines

- (3) Point of Origin and Termination: SEE NOTE
- (4) Number of Lines:
- (5) Right-of-Way:
- (6) Line Length:
- (7) Voltage:
- (8) Anticipated Construction Timing
- (9) Anticipated Capital Investment:
- (10) Substations:
- (11) Participation with other Utilities:
- \* Note: Seminole is not planning to build any additional transmission lines in conjunction with the future capacity.

