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March 30,2005

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 2005 Ten Year Site Plan (TYSP).

Please do not hesitate to call me or Lane Mahaffey, Director of Corporate Planning, if you have **my** questions or comments.

Sincerely,

Mull

Timothy S. Woodbury Vice President, Strategic Services

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Ten Year Site Plan 2005 - 2014 (Detail as of December 31,2004) April 1,2005

Submitted To: State of Florida Public Service Commission

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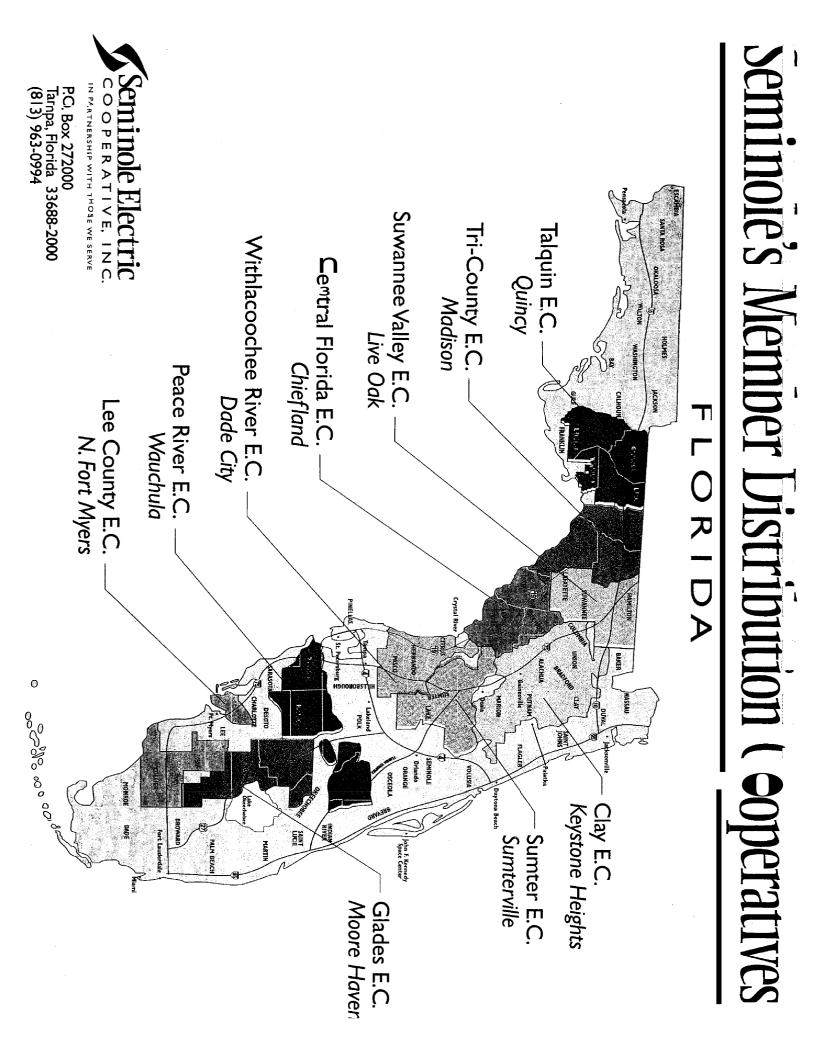


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1. DESCRIPTION OF EXISTING FACILITIES

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. This is accomplished by generating, transmitting, purchasing, and selling electric power and energy as appropriate for this purpose.

The Seminolemember 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
- Tn-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 Owned Generation. Seminole serves its aggregate member system loads 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) Units 1–3 comprise a 500 MW class gas-fired combined cycle plant that began commercial operation on January 1, 2002. Seminole owns a 14.5 MW share of Progress Energy Florida's Crystal River 3 nuclear generating unit which is operated by Progress Energy Florida (PEF). Seminole will begin constructing a new 310 MW peaking plant in November 2005. A more detailed description of Seminole's owned facilities is provided in Schedule 1.

1.2.2 Transmission. Seminole owns a fifty (50) mile 230 kV double circuit transmission line from the SGS to the Silver Springs North switching station (SSN), an 8 mile 230 kV double circuit line from the SGS to Florida Power and Light's (FPL) Rice Substation, a 9 mile 230 kV single circuit transmission line from the Hardee Power Station (HPS) to PEF's Vandolah Substation, a 58 mile 230 kV single circuit transmission line from FPL's Charlotte Substation to Lee County Electric Cooperative's Lee Substation and a 63 mile 230 kV single circuit transmission line from SGS to an interconnection with Jacksonville Electric Authority at the Clay-Duval county line. Seminole jointly owns with PEF two 230 kV tie lines which connect SSN with PEF's Silver Springs

substation (six miles and one mile) and Seminolejointly owns with PEF one 230 kV tie-line which connects SSN with PEF's Martin West substation (one mile).

Seminole owns fourteen (14) 69 kV transmission lines totaling 140.6 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 Hensley to Lakeport. A map of Seminole's facilities is provided following Section 1.

1.3 Purchased Power

Seminole's generation portfolio includes the following firm purchased power agreements':

- Progress Energy Florida
 - 150 MW firm system intermediate capacity through 2013 with certain termination options.
 - 150MW firm system intermediate capacity June 2006 through 2013 with certain conversion and termination options.
 - 150MW firm system peaking capacity December 2006 through 2013 with certain conversion options.
 - Partial Requirements Load following requirements service with certain notice options relative to the amount purchased and termination. Quantities vary by month (approximately790 MW was

¹ All ratings are winter unless otherwise noted.

purchased in January 2005.)

- Full Requirements Service-150 MW of full requirements load following service beginning January 2010 and increasing with load growth through July **3**1,2020.
- 50 MW system base load capacity through 2005.
- Lee County Resource Recovery 35 MW firm base load capacity through December 2006 and increasing to 55 MW through 2011.
- Reliant 364 MW firmpeaking capacity through 2006;
- Constellation 546 MW fimpeaking capacity thru 2009;
- Calpine 360 MW firmintermediate capacity for the period June 2004 thru May 2009, with openers for possible extension thereafter.
- Hardee Power Partners (HPP) 362 MW first call reserve capacity from the HPS to cover a forced or scheduled outage or reduced capability of SGS and CR3, extending through 2012. Seminole has an option to purchase the HPS upon termination of the purchase agreement.
- ► Gainesville Regional Utilities (GRU) Full requirements service for a firm service delivery point (approximate 13 MW), extending though 2023.
- ► DG Telogia, LLC 13 MW biomass burning capacity through 2019.
- Bio-Energy Partners 6 MW landfill gas capacity through 2009.

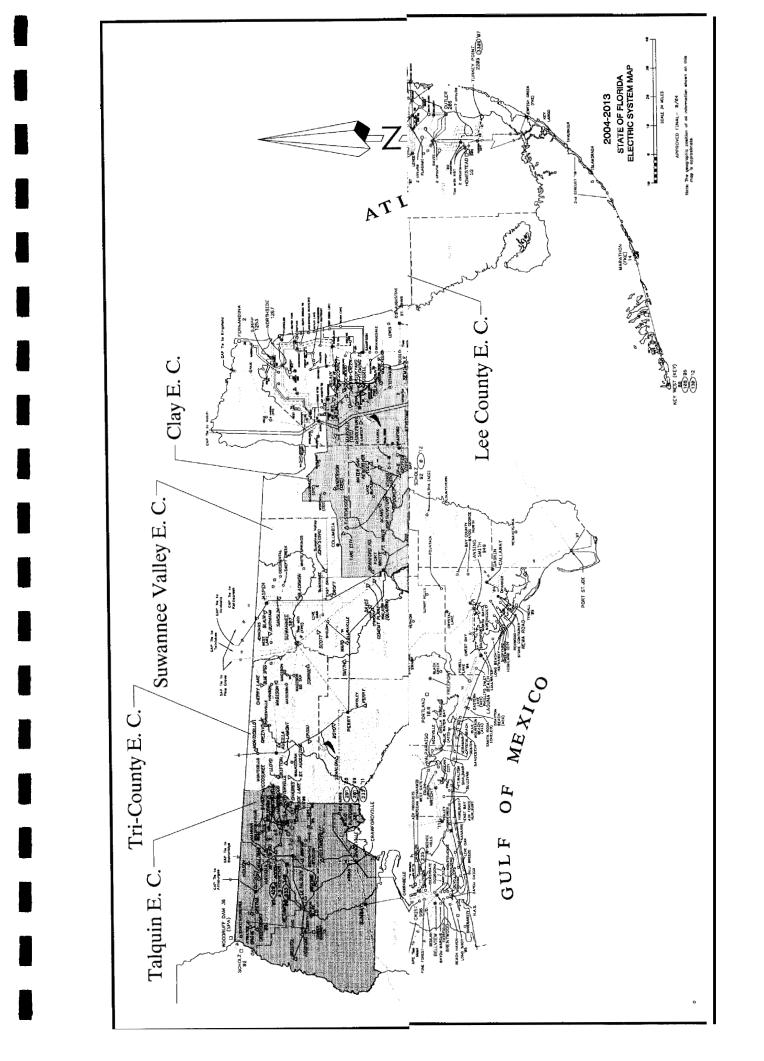


1.4 Demand Side Management (DSM) and Energy Conservation

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, distributed generation, consumer awareness programs, energy audits, energy surveys, time-of-use rates and low interest energy conservation loans. Seminole's distributed generation (DG) programs allow its Members to partner with their retail customers to install "behind the meter" customer-based DG to operate as dispatchable load management resources for Seminole's system, while providing on-site back up generation to improve customer reliability.

Seminole's coordinated DSM program reduces Seminole's peak demand, and the load forecast takes into account reductions due to DSM. While the effect of conservation is reflected in the load forecast, its value is not directly identified because of the difficulty in measuring the impact of the diverse programs of Seminole's members.





	Schedule 1												
	Existing Generating Facilities As of December 31,2004												
				Fue	1	Fue Transpoi		Alt Fuel Days	Comm'l In-Svc	Expected etirement	Generator Max Nameplate	Net Caj Summer	pability Winter
Plant	Unit No.	Locatior	Unit Type	Primary	Alt	Primary	Alt	Use	MoNr	MoNr	MW	MW	MW
SGS	1	Palatka	ST	BIT	NIA	RR	NIA	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	1-3	Hardee County	сс	NG	DFO	PL	TK	NIA	01/02	Unk	587	488	572
Crystal River	3	Citrus County	ST	NUC	N/A	TK	N/A	N/A	03/77	Unk	8 90	15	15
I,TOTAL						1,819	1,917						
Abbrevi	iations:	<u>U</u>	nit Tyj	<u>pe</u>			Fuel T	<u>`ype</u>			Fuel Trans	portation	
	Unk - Unknown					BIT -	Bitum	inous Co	bal	PL - Pipeline			
		N/A – 1	Not ap	plicable	licable NG - Natural Gas					RR - Railroad			
		ST - St includ	eam T ling nu			N	UC - N	luclear		TK - Truck			
		CC - Co	ombine	d Cycle		DFO - N	o. 2D	iesel Fue	el Oil				



2. FORECAST OF ELECTRIC POWER 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 variety of geographic and weather conditions yields 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 €orFlorida as a whole. For the period of 1994-2003, Seminole's residential customer growth rate was 2.9 percent compared to 2.4 percent for Florida.

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 consequentlyhelp 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 in the future.

2.2.2 Population. Historical and forecasted population for Seminole's members' service area is shown on Schedule 2.1. Total population in the service area is projected to increase 2.0 percent annually through 2014.

2.2.3 Consumers. Seminole'smembers serve significant portions 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'smembers 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 1994 and 2003, residential usage per consumer in Seminole members' service area increased at an average annual rate of 2.4 percent as compared to the State average of 1.6 percent. The average residential usage per consumer for Seminole's members was close to the Florida average in 2003 (e.g. 14,612KWh for Seminole versus 14,432 KWh for Florida.) Growth in average usage is consistent with Seminole's Residential Appliance Survey results which show steady increases in appliance saturations, larger homes, and lower real price of electricity during the last decade. The increased appliance saturations shown in the survey reveal growth in not only traditional loads but also show significant growth in new loads such as home computers and other electronic equipment.



Table 1 below summarizes survey results for 1992 and 2002 (Seminole's latest survey). Between 1992 and 2002, larger homes were built and appliance saturations steadily increased.

Historically, electricityprices in "nominal" terms have shown steady declines until 2001. At that point "nominal" prices began to rise. More importantly, real prices, prices adjusted for inflation, also began to rise and then level off. The current forecast of energy usage per consumer reflects a declining real price of electricity. It is anticipated that future forecasts of energy usage per consumer may reflect a more constant or even slightly increasing real price of electricity.

Table 1						
Homes and Electric Applia	nce Saturations	(%)				
	1992	2002				
Single Family Homes	61	65				
Homes > 2000 sq ft	15	23				
Homes < 1200 sa ft	33	21				
Primary Space Heating	73	86				
Air Conditioning	92	97				
Heat Pump	28	57				
Water Heater	89	93				
Refrigerator	99	100				
Television	99	99				
Horns Computers	13	64				
VCR	69	86				
Electric Range	77	84				
Microwave Oven	88	97				
Dishwasher	53	48				
Clothes Dryer	76	87				
Pool Pump	16	16				
SOURCE: "Residential Survey," Se		Cooperative,				
Inc 1992 and	1 2002					



Per consumer usage on the Seminole system is expected to grow at a strong but lower annual rate through 2014 (2.0 percent). 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 projections of better appliance efficiencies, home insulation, and the near saturation of air conditioning in the members" service area.

Commercial usage per consumer is much lower on the Seminole system than in Florida as a whole, 56,372 KWh versus 81,619 KWh in 2003. 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, with very little industrial load. Commercial/industrial usage per consumer is projected to grow at an average annual growth rate of 1.6 percent through 2014.

2.2.5 Energy Sales and Purchases. Residential energy sales are projected to grow at 4.3 percent annually between 2005 and 2014. This forecast incorporates anticipated increases in energy savings due to additional future conservation. Commercial energy sales are projected to also grow at an annual average of 4.3 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 4.1 percent and its summer peak demand is projected to increase at an average annual rate of 4.0 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 25 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. However, it should be noted that many of Seminole's members routinely evaluate the economic feasibility of their current load management programs.

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. In lieu of economic 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 BEBR's alternative scenarios.



Schedule 2.1

History and Forecast of Energy Consumption and

Number of Customers by Customer Class

	Estimated		RESIDE	NTIAL	
Year	Population Servedby Members	Members Per Household	GWh	Average Number of Customers	Average KWh Consumption Per Customer
1995	1,285,335	2.35	6,907	546,832	12,631
1996	1,319,121	2.35	7,266	561,981	12,929
1997	1,352,763	2.34	7,238	578,345	12,515
1998	1,388,058	2.34	7,975	592,441	13,461
1999	1,425,988	2.35	7,993	607,059	13,167
2000	1,465,787	2.35	8,550	623,151	13,721
2001	1,502,844	2.35	8,755	640,290	13,673
2002	1,535,564	2.32	9,543	661,332	14,430
2003	1,596,529	2.33	10,026	686,140	14,612
2004	1,633,512	2.34	10,221	713,547	14,324
2005	1,670,494	2.33	10,412	716,180	14,538
2006	1,707,831	2.32	10,866	734,574	14,792
2007	1,745,169	2.32	11,327	752,913	15,044
2008	1,782,507	2.31	11,845	771,262	15,358
2009	1,814,717	2.29	12,338	790,948	15,612
2010	1,851,407	2.29	12,889	809,041	15,931
2011	1,887,272	2.28	13,461	826,788	16,281
2012	1,923,141	2.28	14,073	844,544	16,663
2013	1,959,005	2.27	14,623	862,301	16,958
2014	1,994,873	2.27	15,240	880,065	17,317



Schedule 2.2 History and Forecast of Energy Consumption and Number of Customers by Customer Class								
		COMMER	CIAL					
Year	GWh	Average No. of Commercial Customers	Average KWh Consumption Per Customer	Other Sales GWh	Total Sales GWh			
1995	2,564	51,416	49,821	101	9,572			
1996	2,681	53,220	50,382	105	10,052			
1997	2,808	55,281	50,810	123	10,169			
1998	2,959	56,620	52,267	117	11,051			
1999	3,108	59,027	52,607	127	11,228			
2000	3,415	62,876	54,310	135	12,100			
2001	3,549	66,766	53,155	126	12,430			
2002	3,727	68,787	54,184	163	13,433			
2003	3,961	70,264	56,372	161	14,148			
2004	4,114	74,242	55,413	247	14,582			
2005	4,262	76,243	55,895	166	14,840			
2006	4,436	78,325	56,636	169	15,471			
2007	4,616	80,457	57,375	172	16,115			
2008	4,821	82,627	58,351	175	16,841			
2009	5,015	84,823	59,126	177	17,540			
2010	5,234	87,043	60,134	180	18,303			
2011	5473	89,319	61,269	183	19,117			
2012	5725	91,609	62,492	187	19,985			
2013	5,953	93,909	63,393	189	20,765			
2014	6,205	96,218	64,492	191	21,636			
NOTES:		class includes industrial c lass includes lighting cust						



Schedule 2.3

History and Forecast of Energy Consumption and

Number of Customers by Customer Class

Year	Sales for Resale GWh	Utility Use & Losses GWh	Net Energy for Load GWh	Other Customers (Average Number)	Total Number of Customers
1995	0	1,052	10,624	3,366	601,618
7996	0	770	10,822	3,349	618,553
1997	0	828	10,997	3,514	637,121
1998	0	929	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	1,337	15,485	5,240	761,644
2004	0	1,374	15,635	5,328	793,117
2005	0	1,339	16,179	5,377	797,799
2006	0	1,397	16,868	5,473	818,372
2007	0	1,457	17,572	5,570	838,940
2008	0	1,519	18,360	5,667	859,556
2009	0	1,587	19,127	5,765	881,536
2010	0	1,657	19,960	5,862	901,946
2011	0	1,730	20,547	5,958	922,065
2012	0	1,805	21,790	6,056	942,208
2013	0	1,882	22,647	6,152	962,362
2014	0	1,961	23,598	6,249	982,532



Schedule 3.1.1 History and Forecast of Summer Peak Demand (MW) Base Case									
					Residential		Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment 1	Conser- vation	Load Manage- ment	Conser- vation	Net Firn Demand
1995	2,329	2,329	0	NIA	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	NIA	2,606
1999	2,729	2,719	0	N/A	92	N/A	NIA	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	3,140	3,140	0	66	99	N/A	N/A	N/A	2,975
2003	3,092	3,092	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	3,514	3,5 14	0	95	95	N/A	N/A	N/A	3,324
2006	3,650	3,650	0	95	95	N/A	N/A	N/A	3,460
2007	3,788	3,788	0	95	95	N/A	N/A	N/A	3,598
2008	3,932	3,932	0	95	95	NIA	N/A	N/A	3,742
2009	4,086	4,086	0	95	95	N/A	N/A	N/A	3,895
2010	4,246	4,246	0	95	95	N/A	N/A	N/A	4,056
2011	4,416	4,416	0	95	95	N/A	N/A	N/A	4,226
2012	4,584	4,584	0	95	95	N/A	N/A	NIA	4,394
2013	4,757	4,757	0	95	95	N/A	N/A	N/A	4,567
2014	4,938	4,938	0	95	95	N/A	N/A	N/A	4,748



Ι

			Forec	cast of Summer	ıle3.1.2 Peak Demar Case	nd (MW)			
					Resid	ential	Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
2005	3,629	3,629	0	95	95	N/A	N/A	N/A	3,439
2006	3,792	3,792	0	95	95	N/A	N/A	N/A	3,602
2007	3,959	3,959	0	95	95	N/A	NIA	NIA	3,769
2008	4,134	4,134	0	95	95	N/A	NIA	N/A	3,944
2009	4,322	4,322	0	95	95	N/A	N/A	N/A	4,132
2010	4,514	4,5 14	0	95	95	N/A	N/A	N/A	4,324
2011	4,725	4,725	0	95	95	N/A	N/A	N/A	4,535
2012	4,934	4,934	0	95	95	N/A	N/A	N/A	4,744
2013	5,149	5,149	0	95	95	N/A	N/A	N/A	4,959
2014	5,373	5,373	0	95	95	N/A	N/A	N/A	5,183



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			Fore	cast of Summer	ule 3.1.3 [.] Peak Dema [.] Case	nd (MW)			
					Resid	lential	Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
2005	3,369	3,369	0	95	95	N/A	N/A	N/A	3,179
2006	3,470	3,470	0	95	95	N/A	N/A	N/A	3,280
2007	3,571	3,571	0	95	95	N/A	N/A	N/A	3,381
2008	3,677	3,677	0	95	95	N/A	N/A	N/A	3,487
2009	3,798	3,798	0	95	95	N/A	N/A	NIA	3,608
2010	3,917	3,917	0	95	95	N/A	N/A	N/A	3,727
2011	4,038	4,038	0	95	95	N/A	N/A	N/A	3,848
2012	4,158	4,158	0	95	95	N/A	N/A	N/A	3,968
2013	4,280	4,280	0	95	95	N/A	N/A	N/A	4,040
2014	4,408	4,408	0	95	95	N/A	N/A	NIA	4,218



	_	1	History an	Sched d Forecast of V	ule 3.2.1 Vinter Peak l	Demand (M)	w)		_
			liistor y un		e Case	Demana (171	,		
					Resid	ential	Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment 1	Conser- vation	Load Manage- ment	Conser- vation	Net Firn Demand
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	NIA	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	3,698	3,698	0	56	85	N/A	N/A	N/A	3,531
2004-05	4,115	4,115	0	60	85	N/A	N/A	NIA	3,970
2005-06	4,539	4,539	0	95	140	N/A	N/A	N/A	4,304
2006-07	4,718	4,718	0	95	140	N/A	N/A	NIA	4,483
2007-08	4,904	4,904	0	95	140	N/A	N/A	N/A	4,569
2008-09	5,098	5,098	0	95	140	N/A	N/A	N/A	4,863
2009-10	5,303	5,303	0	95	140	N/A	N/A	N/A	5,068
2010-11	5,520	5,520	0	95	140	N/A	N/A	N/A	5,285
2011-12	5,741	5,741	0	95	140	N/A	N/A	N/A	5,506
2012-13	5,963	5,963	0	95	140	N/A	N/A	N/A	5,728
2013-14	6,193	6,193	0	95	140	N/A	N/A	N/A	5,958
2014-15	6,431	6,431	0	95	140	N/A	N/A	N/A	6,196
NOTES: (a is actual amo mount availabl		at the time o	f the seasona	l peak dema	nd.



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			Forec	ast of Winter	ıle 3.2.2 Peak Demar Case	ıd (MW)			
					Resid	lential	Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Finn Demand
2005-06	4,692	4,692	0	95	140	N/A	N/A	N/A	4,457
2006-07	4,907	4,907	0	95	140	N/A	N/A	N/A	4,672
2007-08	5,129	5,129	0	95	140	N/A	N/A	N/A	4,894
2008-09	5,364	5,364	0	95	140	N/A	N/A	NIA	5,129
2009-10	5,610	5,610	0	95	140	NIA	N/A	N/A	5,375
2010-11	5,873	5,873	0	95	140	N/A	N/A	N/A	5,638
2011-12	6,145	6,145	0	95	140	NIA	N/A	N/A	5,910
2012-13	6,418	6,418	0	95	140	N/A	N/A	NIA	6,183
2013-14	6,701	6,701	0	95	140	N/A	N/A	N/A	6,466
2014-15	6,994	6,994	0	95	140	N/A	NIA	N/A	6,759



			Fore	cast of Winter	ule 3.2.3 Peak Deman 7 Case	ıd (MW)			
					Resid	ential	Comm	nercial	
Year	Total	Whole- sale	Retail	Distributed Generation	Load Manage- ment	Conser- vation	Load Manage- ment	Conser- vation	Net Firm Demand
2005-06	4,344	4,344	0	95	140	N/A	N/A	NIA	4,109
2006-07	4,478	4,478	0	95	140	N/A	N/A	N/A	4,243
2007-08	4,616	4,616	0	95	140	N/A	N/A	NIA	4,381
2008-09	4,768	4,768	0	95	140	N/A	NIA	N/A	4,533
2009-10	4,926	4,926	0	95	140	N/A	N/A	N/A	4,691
2010-11	5,087	5,087	0	95	140	N/A	N/A	N/A	4,852
2011-12	5,248	5,248	0	95	140	N/A	N/A	N/A	5,013
2012-13	5,407	5,407	0	95	140	N/A	N/A	N/A	5,172
2013-14	5,572	5,572	0	95	140	N/A	N/A	N/A	5,337
2014-15	5,744	5,744	0	95	140	N/A	N/A	NIA	5,509



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				Schedule 3.3	.1			
		Histor	y and Forecast	of Annual Net	Energy for L	oad (GWh)		
				Base Case				
		Conse	ervation		Total	Utility Use	Net	Load
Year	Total	Residential	Commercial	Retail	Sales	& Losses	Energy for Load	Factor %
1995	10,624	N/A	N/A	0	9,572	1,052	10,624	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	10,169	828	10,997	42.4
1998	11,980	N/A	N/A	0	11,051	929	11,980	49.8
1999	12,167	N/A	N/A	0	11,228	939	12,167	44.5
2000	13,094	N/A	N/A	0	12,100	994	13,094	46.6
2001	13,294	N/A	N/A	0	12,430	864	13,294	41.9
2002	14,690	N/A	N/A	0	13,433	1,257	14,690	46.6
2003	15,788	N/A	N/A	0	14,148	1,640	15,788	42.5
2004	15,413	N/A	N/A	0	14,261	1,830	16,413	50.6
2005	16,295	N/A	N/A	0	14,840	1,455	16,295	44.8
2006	16,868	N/A	N/A	0	15,471	1,397	16,868	44.8
2007	17,572	N/A	N/A	0	16,115	1,457	17,572	44.8
2008	18,360	N/A	N/A	0	16,841	1,5 19	18,360	44.9
2009	19,127	N/A	N/A	0	17,540	1,587	19,127	44.9
2010	19,960	N/A	N/ 4	0	18,303	1,657	19,960	45.0
2011	20,847	N/A	N/A	0	19,117	1,730	20,847	45.0
2012	21,790	N/A	N/A	0	19,985	1,805	21,790	45.2
2013	22,647	N/A	N/A	0	20,765	1,882	22,647	45.1
2014	23,598	N/A	N/A	0	21,637	1,961	23,598	45.2



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		J	Forecast of Ann	Schedule 3.3. ual Net Energ High Case		Wh)		
Year	Total	Conse. Residential	rvation Commercial	Retail	Wholesale	Utility Use & Losses	Net Energy for Load	Load Factor %
2005	16,685	N/A	N/A	0	15,303	1,382	16,685	44.8
2006	17,507		N/A	0	16,056	1,451	17,507	44.8
2007	18,348	-	N/A	0	16,827	1,521	18,348	44.8
2008	19,282	N/A	N/A	0	17,686	1,596	19,282	45.0
2009	20,205	NIA	N/A	0	18,528	1,677	20,205	45.0
2010	21,194	N/A	N/A	0	19,434	1,760	21,194	45.0
2011	22,271	N/A	N/A	0	20,421	1,850	22,271	45.1
2012	23,413	N/A	N/A	0	21,471	1,942	23,413	45.2
2013	24,467	N/A	N/A	0	22,433	2,034	24,467	45.2
2014	25,629		N/A	0	23,497	2,132	25,629	45.2



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		J	Forecast of Ann	Schedule 3.3. ual Net Energ Low Case		Wh)		
Year	Total	Conse Residential	rvation Commercial	Retail	Wholesale	Utility Use & Losses	Net Energy for Load	Load Factor %
2005	15,536	N/A	NIA	0	14,250	1,286	15,536	44.6
2006	16,058	NIA	N/A	0	14,729	1,329	16,058	44.6
2007	16,589	N/A	N/A	0	15,216	1,373	16,589	44.6
2008	17,195	N/A	N/A	0	15,774	1,421	17,195	44.8
2009	17,806	N/A	N/A	0	16,331	1,475	17,806	44.8
2010	18,447	N/A		0	16,918	1,529	18,447	44.9
2011	19,107	NIA	N/A	0	17,523	1,584	19,107	44.9
2012	19,811	NIA		0	18,172	1,639	19,811	45.1
2013	20,430	N/A		0	18,736	1,694	20,430	45.1
2014	21,128	NIA	N/A	0	19,375	1,753	21,128	45.2



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

	2004	Actual	2005 Fo	precast	2006 Fo	recast
Month	Peak Demand MW	NEL GWh	Peak Demand MW	NEL GWh	Peak Demand MW	NET GWh
January	3,531	1,361	3,970	1,482	4,304	1,424
February	3,193	1,167	3,416	1,117	3,565	1,166
March	2,533	1,114	3,082	1,212	3,217	1,265
April	2,502	1,119	2,608	1,164	2,725	1,215
May	3,222	1,443	3,125	1,424	3,262	1,485
June	3,196	1,604	3,176	1,433	3,311	1,493
July	3,227	1,677	3,271	1,597	3,406	1,663
August	3,173	1,605	3,324	1,642	3,460	1,710
September	3,073	1,430	3,168	1,454	3,299	1,514
October	2,991	1,353	2,905	1,278	3,029	1,332
November	2,616	1,132	2,751	1,128	2,873	1.177
December	3,3 87	1,408	3,457	1,364	3,605	1,424
ANNUAL		16,413		16,295		16,868



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						S	chedule 5	i						
						Fuel	Requiren	nents						
			Ac	tual						<u> </u>		<u> </u>		
Fuel Requ	irements	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Nuclear		Trillion BTU	1	1	1	1	1	1	1	1	1	1	1	1
Coal		1000 Tons	3,832	3,544	3,853	3,956	3,940	3,993	3,986	3,980	3,842	5,024	5,783	5,817
Residual	Total	1000 <u>3BL</u>	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	о	0	0	0	0	0	0	0	0	0	0	0
	СТ	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
	Diesel	1000 3BL	0	0	0	0	0	0	0	0	0	0	0	0
Distillate	Total	1000 BBL	74	43	44	45	162	236	317	430	611	400	333	492
	Steam	1000 BBL	44	36	36	36	36	36	36	36	36	36	36	36
	сс	1000 BBL	30	7	7	7	7	7	7	7	7	7	7	7
	CT	1000 BBL BBL	0	0	1	з	119	193	. 274	387	568	357	290	449
Natural Gas	Total	1000 MCF	16,917	15,474	13,250	15,188	18,775	19,259	36,955	48,081	53,920	43,130	38,143	52,349
Gas	Steam	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
	сс	1000 MCF	16,917	15,474	13,237	15,145	16,000	14,760	30,568	39,063	40,697	34,819	31,386	41,891
	СТ	1000 MCF	0	0	13	43	2,775	4,499	6,387	9,018	13,223	8,311	6,757	10,458
Other		Trillion BTU	1,342	2,105	1,059	972	722	932	971	1,150	2,514	2,015	0	0
NOTES:	"Other" Total coa	reports fuel i al quantity fo	equiremen or 2004 incl	ts for the H luded 752k	PP HPS pu tons of pet	irchase. coke.				, <u> </u>				



						Energ	y Sources	(GWh)						
			Act	ual										
Energy So	ources	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	20 [.]
Annual I Intercha	Firm nge	GWh	3,431	4,992	4,715	4,811	5,097	5,689	4,036	3,370	3,474	2,728	2,510	1,3
Nuclear		GWh	113	125	119	119	110	120	110	119	110	120	110	11
Coal		GWh	9,568	9,015	9,571	9,802	9,815	9,914	9,875	9,835	9,711	12,867	14,868	14,
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	C
	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	c
Distillate	Total	GWh	0	0	0	1	67	110	158	225	331	209	170	26
	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	c
	сс	GWh	0	0	0	0	0	0	0	0	0	0	0	c
	СТ	GWh	0	0	0	1	67	110	158	225	331	209	170	26
	Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas	Total	GWh	2,223	2.051	1,752	2,023	2,399	2,413	4,835	6,271	6 <u>.</u> 92 1	5,620	4,989	6,9
	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
	сс	GWh	2,223	2,051	1,761	2,019	2,131	1,977	4,204	5,374	5,598	4,788	4,307	5,9
	СТ	GWh	0	0	I	4	268	441	631	900	1,325	838	682	1,0
Other		GWh	150	230	122	112	84	109	113	137	298	240	0	0

NOTES: Annual Firm Interchange consists of all purchases **per** contracts except the HPP HPS purchase. "Other" represents the purchase **frcm** HPS.



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Energ Sources (Percent)														
			Ac	tual		Linerg	Sources							
Energy So	ources	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	20
Annual Firm I	ntarchanga	%	22.16	28.90	28.43	28.52	29.01	30.99	21.10	16.88	16.66	12.52	11.08	5.
Nucle		%	0.73	0.73	0.74	0.71	0.63	0.65	0.58	0.60	0.53	0.55	0.49	0
Coal	l	%	61.79	56.12	59.19	58.11	55.86	54.00	51.63	49.27	46.58	59.05	65.65	63
Residual	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	сс	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	СТ	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	Diesel	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Distillate	Total	%	0.00	0.00	0.00	0.01	0.38	0.60	0.83	1.13	1.59	0.96	0.75	1
	Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	сс	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	СТ	%	0.00	0.00	0.00	0.00	0.38	0.60	0.83	1.13	1.59	0.96	0.75	1
Natural Gas	Total	%	14.36	12.77	10.89	11.99	13 65	13.17	25.28	31.43	33 21	25.82	22.03	29
	Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	сс	%	14.36	12.77	10.88	11.97	12.13	10.77	21.98	26.92	26.85	21.97	19.02	25
	СТ	%	0.00	0.00	0.01	0.02	1.53	2.40	3.30	4.51	6.36	3.85	3.01	4.
Other		%	0.97	1.43	0.75	0.66	0.48	0.59	0.59	0.69	I.43	1.10	0.00	0.
Net Energy f	or Load	%	100	100	100	100	100	100	100	100	100	100	100	1



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) electricityprice 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 46 counties served by Seminolemember 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* also 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 2002."

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 0.981%. 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 180 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.

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 Ccnsumer 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. 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 2002 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 included 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. 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 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-familyhomes, mobile homes, and multi-familyhomes. Next, annual forecasts of space-conditioning saturations are created. Finally, the air-conditioning saturations

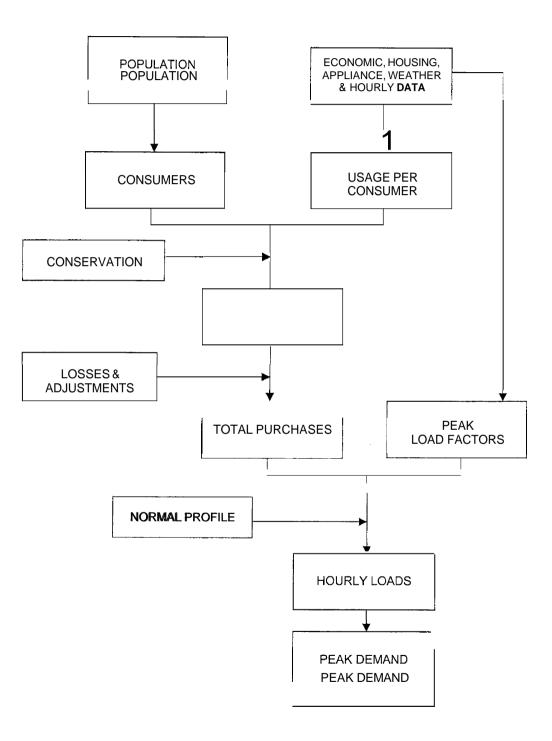


and the space-heating saturations are combined with housing type share information, resulting in weather-sensitive stock variables for heating and cooling.



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. 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 included 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 Energy Sales and Energy Purchases. The energy sales forecasts for Residential, Commercial/Industrial and Other classes are summed up for a total energy sales forecast by month for each member system. The energy sales forecast is converted to member energy 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 'fatter, as a function 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 © reach 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 arc 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. 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 BEBR's alternative scenarios.



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3. FORECAST OF FACILITIES REQUIREMENTS

Seminole's load is located primarily within three control areas: PEF, FPL, and 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. Seminolemust also supply appropriate reserves for the load it is responsible for serving. Seminolemeets 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 partial requirement (PR) purchases from PEF. PEF has the contractual obligation to plan to meet these requirements.

In late 2003, Seminole issued an RFP for full requirements power purchases wherein a seller would serve **a** portion of Seminole's load requirement. As a result, a purchase power contract was executed with PEF for Full Requirements Service for a 150 MW portion of Seminole's load beginning January 2010, and expanding with load growth.

Seminoleissued an all-sourceRFP for peaking capacity in March 2002 which resulted in a contract fur 150 MW of system peaking capacity for the period from December 2006 through 2013 with PEF with the option to convert to system intermediate, and 310 MW of self-build aero-derivative peaking capacity to be built at the Payne Creek site.

Seminoleissued another all-sourceRFP in April 2004 €orbase load capacitybeginning in 2009-2012 time fi-ame. Concurrently, Seminole hired an engineering consultant to prepare a feasibility study and cost estimate for a third coal unit at Seminole Generating Station (SGS). The self-build SGS unit has since been evaluated as the most economical and best alternative.



Seminole plans to begin the permitting and need petition process for **an** 800 MW class coal fired SGS unit during 2005 with a commercial operation date of May 1, 2012.

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'sneeds. As a result of Seminole's market interactions, purchased power contracts have been made for renewable energy facility, Lee County Resource Recovery, for approximately 35 MW of capacity which increases to 55 MW in 2006. More recently, Seminole has signed contracts with DG Telogia, a 13 MW biomass (wood chip) burning facility, and with Bio-Energy Partners, a 6 MW landfill methane gas burning facility.

Schedules 7.1, 7.2 and 8 include the addition of approximately of 3,250 MW of capacity by 2014 at Payne Creek, Seminole Plant 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 are an approximation of the most economic mix of resource types. The addition of this capacity, at sites to be determined by Seminole, is Seminole's "Backstop" expansion plan as requested by Florida Public Service Commission staff. Future economic studies, in conjunction with Seminole's competitive bidding process, will further optimize the amount, type, and timing of such capacity. Specifically, Seminole expects that by supplementing owned resources with purchased resources it will be able to avoid the short term reserve margin surpluses in years immediately following the addition of a large plant



(e.g., 2012, 2013). Because the units at unknown sites are for planning purposes only, no Schedule 9 is included for these units.



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Schedule 7.1

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

	Total	Fir	m Capacity Imp	ort	Firm		Canaci	ty Available	-	Firm Winter	D	Manala		D	M
Year	Installed Capacity MW	PR and FR MW	Other Purchases MW	Total MW	Capacity Export MW	QFs MW	Total MW	Less PR and FR MW	Total MW	<u>x Demand</u> Obligation MW	В	re Margin efore ntenance % of Pk	Scheduled Maintenance MW	1	re Margin After ntenance % of Pk
2005	1.819	334	1,591	1,925	0	0	3,744	3,410	3,234	2,900	510	17.6%	0	510	17.6%
2006	1,819	449	1,741	2,190	0	0	4,009	3,560	3,460	3,011	549	18.2%	0	549	18.2%
2007	2,089	415	1,605	2,020	ſ	0	4,109	3,694	3,598	3,183	511	16.1%	0	511	14.1%
2008	2,247	463	1,605	2,058	0	0	4,315	3,852	3,742	3,279	573	17.5%	0	573	17.5%
2009	2,721	443	1,265	1,708	3	0	4,429	3,986	3,896	3,453	533	15.4%	0	533	15.4%
2010	3,195	605	800	1,405	3	0	4,600	3,995	4,055	3,451	544	15.8%	0	544	15.8%
2011	3,353	621	800	1,421	0	0	4,774	4,153	4,226	3,605	548	15.2%	0	548	15.2%
2012	4,261	634	750	1,354	n	0	5,645	5,011	4,394	3,760	1,251	33.3%	0	1,251	33.3%
2013	4,261	644	463	1,107	0	0	5,368	4,724	4,547	3,923	801	20.4%	0	801	20.4%
2014	4,735	661	13	674	0	0	5,409	4,748	4,748	4,087	661	16.2%	0	661	16.2%

NOTES: 1 Total installed capacity and the associated reserve margins are based on Seminole's "Backstop" plan. It is anticipated that the short term reserve surpluses due to timing of large unit additions can be avoided with firm purchases.

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

3 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.



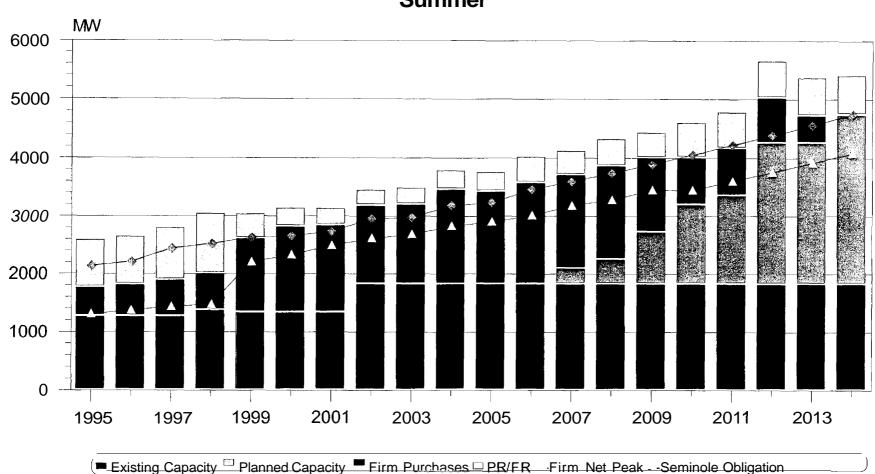


Figure 1: History and Forecast Of Total Resources And Peak Demand **Summer**

Note: Seminole Obligation is the load which Seminole is reponsible for serving with Existing and Planned Capacity and Firm Purchases. Firm purchases includes first-call capacity from HPS.

Schedule 7.2

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

	Total	Fir	nn Capacity Imp	oort	Firm		Capacity	Available	2	Firm Summer A Demand					
	Installed Capacity	PR and FR	Other Purchases	Total	Capacity Export	QFs	Total	Less PR and FR	Total	Obligation	I	ve Margin Before ntenance	Scheduled Maintenance		ve Margin After ntenance
Year	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	% of Pk	MW	MW	% of Pk
2005	1,917	909 .	1,827	2,736	0	0	4,653	3,744	3,970	3,061	683	22.3%	0	683	22.3%
2006	1,917	1,056	1,827	2,883	0	0	4,800	3,744	4,304	3,248	496	15.3%	0	496	15.3%
2007	2,227	1,053	1,783	2,836	0	0	5,063	4,010	4,483	3,430	580	16.9%	0	580	16.9%
2008	2,409	1,134	1,783	2,917	0	0	5,326	4,192	4,669	3,535	657	18.6%	0	657	18.6%
2009	2,591	1,146	1,783	2,929	0	0	5,520	4,374	4,863	3,717	657	17.7%	0	657	17.7%
2010	3,501	1,369	871	2,240	0	0	5,741	4,372	5,068	3,699	673	18.2%	0	673	18.2%
2011	3,683	1,422	871	2,293	0	0	5,976	4,554	5,285	3,863	691	17.9%	0	691	17.9%
2012	3,865	1,478	816	2,294	0	0	6,159	4,681	5,506	4,028	653	16.2%	0	653	16.2%
2013	4,615	1,530	463	1,993	0	0	6,608	5,078	5,728	4,198	880	21.0%	0	880	21.0%
2014	5,161	1,589	13	1,602	0	0	6,763	5,174	5,958	4,369	805	18.4%	0	805	18.4%

NOTES:

1 Total installed capacity and the associated reserve margins are based on Seminole's "Backstop" plan. It is anticipated that the short term reserve surpluses due to timing of large unit additions can be avoided with fum purchases.

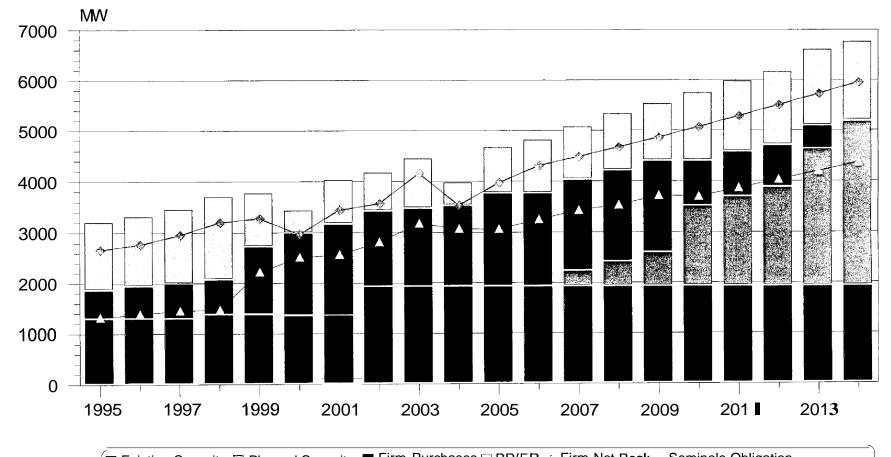
2 Capacity Import/Other Purchases includes a firm purchase power contract from Hardee Power Partners for 353 MW of first-call capacity from the Hardee Power Station to back up Seminole Generating Station and Crystal River #3.

- 3 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.







Existing Capacity Planned Capacity Firm Purchases PR/FR Firm Net Peak - -Seminole Obligation

Note: Seminole Obligation is the load which Seminole is reponsible for serving with Existing and Planned Capacity and Firm Purchases. Firm purchases includes first-calt capacity from HPS.

SeminoleElectric

				Pla	nned an	d Prosp	oective G	enerating Facility	Additions an	d Changes				
				Fu	ıel		ıel sport	Construction	Comm ∎ In-	Expected Retiremen t Mo/Yr	Maximum Nameplat e (MW)	Summo		
Plant Name	Unit No.	Location (County)	Unit	Pri	Alt	Pri	Alt	start Mo/Yr	Service Mo/Yr			Summe r (MW)	Winter (MW)	status
Payne Creek	4	Hardee	GT	NG	DFO	PL	ТК	02/2006	1212006	Unk	62	54	62	Р
	5	Hardee	GT	NG	DFO	PL	ТК	0212006	12/2006	Unk	62	54	62	Р
	6	Hardee	GT	NG	DFO	PL	тк	02/2006	1212006	Unk	62	54	62	Р
	7	Hardee	GT	NG	DFO	PL	ТК	0212006	1212006	Unk	62	54	42	Р
	8	Hardee	GT	NG	DFO	PL	ТК	0212006	1212006	Unk	62	54	62	Р
Unk	CC 1	Unk	сс	NG	N/A	PL	N/A	512007	11/2008	Unk	193	153	182	Р
	<i>CC</i> 2	Unk	cc	NG	N/A	PL	N/A	1112007	512009	Unk	193	153	182	Р
	cc 3-4	Unk	cc	NG	N/A	PL	N/A	512012	11/2013	Unk	386	306	364	Р
	CC 5	Unk	cc	NG	N/A	PL	N/A	5/2013	1112014	Unk	193	153	182	Р
Unk	GT 1	Unk	GT	NG	DFO	PL	ТК	1112006	1112007	Unk	193	153	182	Р
	GT 2	Unk	GT	NG	DFO	PL	ТК	512008	512009	Unk	193	153	182	Р
	GT 3-5	Unk	GT	NG	DFO	PL	ТК	1112008	11/2009	Unk	579	459	546	Р
	GT 6	Unk	GT	NG	DFO	PL	тк	1112009	11/2010	Unk	193	153	182	Р
	GT 7	Unk	GT	NG	DFO	PL	тк	11/2010	11/2012	Unk	193	153	182	P
	GT 8	Unk	GT	NG	DFO	PL	TR	11/2012	11/2013	Unk	193	153	182	Р
SGS	3	Putnam	ST	BIT		RR		9/2008	5/2012	Unk	750	750	750	P
Total												3,009	3,426	
Notes:	Unk:	Unknown	1						<u> </u>	1	<u>L</u>	<u> </u>		1
	U:	Regulatory	approva	lreceive	d. Unde	er constru	uction.							
	P:	Planned, b	ut not un	der cons	truction.								•	



4. OTHER PLANNING ASSUMPTIONS AND INFORMATION

4.1 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). 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). In addition, Seminole has recently instituted a risk analysis process as described in Section 4.7.

4.2 Fuel Price Forecast

4.2.1 Coal. Coal prices at the mine which have increased significantly in recent years are projected to decrease over the next few years. Thereafter, coal prices are expected to increase due, in part, to increasing demand for coal production to support new and existing coal fired generation. Solid fuels, such as coal, will experience greater delivered price volatility in the future as supply and transportation imbalances affect the short-term coal markets. There will also be upward pressure on coal transportation costs to support the expansion of track facilities.

4.2.2 Oil. Global economic growth is expected to average approximately3% annually which will result in steady growth in oil demand. Oil prices are expected to reflect a continuation of tight supplies in the future.

4.2.3 Natural Gas. Continued price volatility is expected. Natural gas prices are forecast to decline over the next few years and then increase over the long term. The demand for



natural gas for the production of electricity continues to increase. Increasing demand for natural gas will have to be met by a combination of expanded access to new supply areas and non-traditional sources such as deep water drilling and liquified natural gas (LNG). Supply and demand are expected to remain in balance over the long term but short term imbalances will have a significant impact on prices.

4.2.4 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 a primary economic driver for Seminole's strategy to add coal capacity to the generation mix in 2012.

4.3 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.

4.4 Financial Assumptions

Expansion plans are evaluated based on Seminole'sforecast of Rural Utilities Service (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.



4.5 Integrated Resource Planning Process

Seminole'sprimary long-rangeplanning 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 splanning process is shown in Figure 3.

The impact of 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. 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.

Conservationprograms 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. After years of decline in the real price of electricity, usage per consumer has continued to increase. However, fuel price increases are turning the trend around. If the real



price of electricity continues to increase, the cost effectiveness of these programs will improve, and program expansion is likely to occur.

4.6 Risk Analysis

As part of the base load RFP analysis, Seminole has acquired risk analysis tools which allow staff to perform stochastic probability analyses of many risk variables concurrentlyrather than doing scenario analysis of the variables independently. The risk variables include fuel prices, market prices, inflation, construction costs, environmental cost and pro-forma resource costs. The risk analysis confirmed that a strategy of using coal-fired generation to meet Seminole's base load requirements presents substantially lower economic risk than a strategy which would supply this need with gas-fired combined cycle generation.

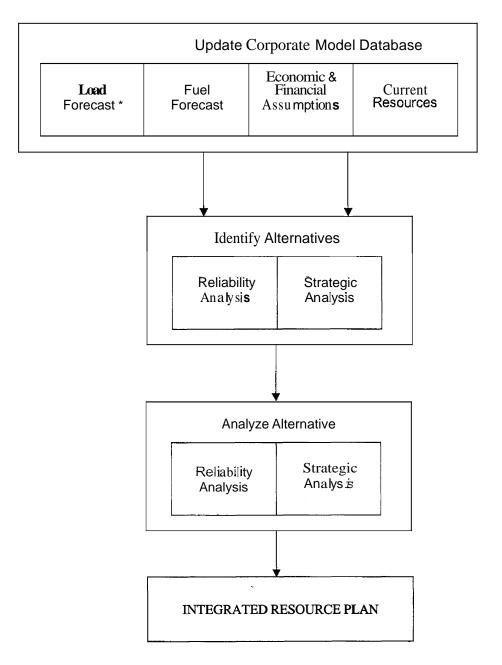
4.7 Reliability Criteria

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. Beginning in 2002, Seminole added additional criteria to ensure that it had winter reserve capacity to cover weather sensitivity during the winter season. This additional criterion was determined to be prudent due to the amount of weather sensitive load in Seminole'stotal obligation in conjunction with the restrictions on the use of Hardee Power Station capacity through the year 2012.



Figure 3

Resource Planning Process



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



4.8 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 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 resources contribute stability to a power supply plan while short-term purchase arrangements add flexibility. For purchase power agreements, system capacity versus unit-specific power is also a consideration. System capacity **is** more reliable, and agreements may 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. Seminolebelieves that the existing diversity in its power supply plan has significant strategic value, leaving Seminole a good position to respond to market and industry changes.

Seminole's recent decision to add a third coal unit at the Seminole Generating Station was driven primarily by economics as the spread between coal prices and natural gas prices has continued to increase. Whereas a few years ago gas-fired combined cycle was considered the best choice for base load capacity, rising prices and increased volatility have made coal-fired generation more attractive. The addition of the third coal unit is consistent with Seminole's fuel and portfolio diversity goals.



4.9 **Procurement of Supply-side Resources**

Seminole plans to continue to use the all-sources 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, and power marketers. The options are compared to Seminole's own self-build alternatives and demand side options. Seminole's evaluation among its options includes an assessment of life cycle cost, reliability, strategic and risk elements.

4.10 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.

Status	Line Terminal From	Line Terminal To	Circuit	Line Miles	Comm'l In-Svc	Nominal Voltage (kV)	Capacity MVA
Upgrade	Payne Creek	Hardee	1	.3	2006	230	1195
Upgrade	Payne Creek	Hardee	2	.3	2006	230	1195
Upgrade	Hardee	Vandolah	Ι	8.8	2006	230	1195
Reconfigure and Upgrade	Hardee	Vandolah	2	8.8	2006	230	1195
Reconfigure	Vandolah	Charlotte	1	49	2006	230	796



The existing 230 kV Hardee/Charlotte transmission line will be looped through the PEF Vandolah substation and reconductored from Hardee to Vandolah, creating a Hardee/Vandolah circuit #2 and a Vandolah/Charlotte circuit #1.

4.10.1 Transmission Facilities for Payne Creek Generating Station Expansion. In 2006, Seminole will add five (*5*) aeroderivative peaking generators at PCGS, with **a** nominal output of 270 MW.

I. Substation

- 1. Construction of the new Payne Creek Peaker switchyard.
- 2. Upgrade the PCGS/Hardee line terminals at the existing Payne Creek switchyard to 3000 amps and modify the line bus to a ring bus configuration.
- 3. Upgrade the PCGS/Hardee circuit #1, PCGS/Hardee circuit #2, and the Hardee/Vandolah line terminals in the Hardee switchyard to 3000 Amps.
- 4. Upgrade the line terminal in the Vandolah switchyard to 3000 Amps.
- II. Transmission
 - 1. Reconductor the existing Hardee/Vandolah 230 kV iine to 3000 Amps.
 - 2. Reconductor the double circuit PCGS/Hardee 230 kV line to 3000 Amps.

4.10.2 Transmission Facilities for Seminole Generating Station Expansion. In

2012, Seminole will add a third coal-fired generating unit at SGS, with a nominal output of 750 MW.

- I. Substation
 - 1. Upgrade the fault duty of all breakers at SES to 63 kA.
 - 2. Upgrade SGS/Silver Springs North line terminals at SGS to 3000 Amps.



- 3. Upgrade the SGS/Silver SpringsNorth line terminals at the Silver SpringsNorth switchyard to 3000 Amps.
- ${\rm I\!I}.$ Transmission
 - 1. N/A



		hedule 9 ns of Proposed Generating Facilities
1	Plant Name & Unit Number	Payne Creek Generating Station Units No. 4, 5, 6,7,8
2	Capacity	
	a. Summer (MW):	54
	b. Winter (MW):	62
3	Technology Type:	Aero-derivative Gas Turbine
4	Anticipated Construction Timing	
	a. Field construction start-date:	November 2005
	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:	Approximately 9.1 acres
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	EPA: PSD Permit Submittal august 2004December 2003
		RUS: FONSI Approved October 2004
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):	10,900 Btu/KWh (HHV)
13	Projected Unit Financial Data (\$2007)	
	Book Life (Years):	30
	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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		bedule 9 ns of Proposed Generating Facilities
1	Plant Name & Unit Number	Seminole Generating Station Unit No. 3
2	Capacity	
	a. Summer (MW):	750
	b. Winter (MW):	750
3	Technology Type:	Pulverized Coal
4	Anticipated Construction Timing	
	a. Field construction start-date:	September 2008
	b. Commercial in-service date:	May 2012
5	Fuel	
	a. Primary fuel:	Coal
	b. Alternate fuel:	
6	Air Pollution Control Strategy	Precipitator, SCR, Wet Scrubber, Wet ESP, Combustion Controls, Carbon Injection
7	Cooling Method:	Cooling towers
8	Total Site Area:	Approximately 172.8 acres
9	Construction Status:	Planned
10	Certification Status:	Planned
11	Status With Federal Agencies	Planned
12	Projected Unit Performance Data	
	Planned Outage Factor (POF):	7.5
	Forced Outage Factor (FOF):	3.5
	Equivalent Availability Factor (EAF):	90
	Resulting Capacity Factor (%):	85%
	Average Net Operating Heat Rate (ANOHR):	9,300 BTu/KWh (HHV)
13	Projected Unit Financial Data (\$2007)	
	Book Life (Years):	30
	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



Schedule 10

Status Report and Specifications of Proposed Associated Transmission Lines

- (1) Point of Origin and Termination: SEE NOTE
- (2) Number of Lines:
- (3) Right-of-Way:
- (4) Line Length:
- (5) Voltage:
- (6) Anticipated Construction Timing
- (7) Anticipated Capital Investment:
- (8) Substations:
- (9) Participation with other Utilities:

Note: Seminole is not planning to build any additional transmission lines in conjunction with the future capacity.



5. ENVIRONMENTAL AND LAND USE INFORMATION

The site for the PCGS 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 (Figures **3** and 4). The project site is bordered on the east by County Road (CR) 663, CSX Transportation (*CSX*)railroad line, and CF Industries, Inc. (CFI) Hardee Phosphate Complex. Mosaic Company properties surround the remaining portions of the site. Payne Creek flows along the site's western and southern borders. Mining was the primary land use of the project site and adjoining areas. **A** more detailed description of environmental and land use data is available in the application for site certification which is on file with the Florida Department of Environmental Protection.

The site was certified (PA-89-25) in 1990 for an ultimate capacity of 660 MW. Hardee Power Partners constructed the first phase of the project by erecting **a** 220 MW combined cycle unit and a 75 MW stand-alone combustion turbine (CT). At that time, future planned expansions included the addition of a second 75 MW CT to the stand-alone CT and **a** 70 MW steam turbine to form a second 220 MW combined cycle unit by 2003, and a third 220 MW combined cycle facility at an unspecified date.

On August 15, 1995 Seminole received certification (PA-89-25SA) pursuant to the Florida Electrical Power Plant Siting Act for **a** 440 MW combined cycle electric generating unit to be in service in lieu of the unspecified 220 MW combined cycle facility. Under this certification, the 440 MW unit would have increased the present site capacity to **735** MW with an ultimate site capacity of 880 MW.



Seminole delayed the construction of Hardee Power Station Unit **3** until 1998, at which time the originally selected Westinghouse 501F(B) combustion turbine had evolved into the Siemens Westinghouse 501F(D) combustion turbine. Due to the efficiency changes in the CT and the heat recovery steam generator (HRSG), there was a 48 MW increase in the output of the unit, above the originallypermitted 440 MW. The new proposed site capacity was then 488 MW which increased the ultimate site capacity to 928 MW. The new 488 MW facility received a certification modification pursuant to the Florida Power Plant Siting Act on December 20,1999 for construction and operation of two (2) Westinghouse 501F(D) combustion turbines and one (1) HRSG. The PCGS began commercial operation in January 2002.

On August 25,2004 Seminole submitted an application to the FDEP to again modify the PCGS site certification and the corresponding PSD permit for construction and operation of an additional 310MW of simple-cycle combustion turbine electric generating capacity at the site. **As** of March 8, 2005, the certification and PSD modifications are under review by the FDEP. The construction of five (*5*)Pratt & Whitney (P&W) FT8-3 Twin Pac aeroderivative combustion turbine units each of 62 MW nominal capacity is currently scheduled to begin in February 2006 with commercial operation of the units scheduled for December 2006.

Environmental and Land Use Information regarding the Payne Creek Generating Station facility can be found in the Site Certification application on file with the Florida Department of Environmental Protection, office of Siting Coordination.

