ORIGINAL

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Determination of Need for the Osprey Energy Center in Polk County by Seminole Electric Cooperative, Inc. and Calpine Construction Finance Company, L.P.	**Docket No. _____-EC** **Filed: December 4, 2000**

SEMINOLE ELECTRIC COOPERATIVE, INC.

EXHIBITS TO JOINT PETITION

FOR DETERMINATION OF NEED FOR THE

OSPREY ENERGY CENTER

VOLUME 1

ORIGINAL

EXHIBITS TO JOINT PETITION

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A. EXECUTIVE SUMMARY

Seminole Electric Cooperative, Inc., ("Seminole") an "electric cooperative" within the meaning of section 403.503 (13), Florida Statutes, was formed by the ten Member cooperatives it serves to negotiate power purchase contracts on their behalf and also to construct generation and transmission facilities with which to serve them. The Members' service areas are spread throughout all areas of Florida, and lie in three separate transmission control areas–those of Florida Power Corporation ("FPC"), Florida Power and Light Company ("FPL"), and Seminole's own Direct Sale Area. Through wholesale contracts with the Member cooperatives (which are owned, in turn, by their Members/customers), Seminole supplies all but 1% of the Members' capacity requirements.

Seminole meets the needs of its Members through a mixed portfolio of owned generation facilities and power purchase contracts. Seminole owns two large coal-fired generators, Seminole 1 and Seminole 2, and is in the process of constructing the Payne Creek unit, a 500 MW class combined cycle project for which the Commission issued a determination of need in 1994. Seminole is a party to numerous power purchase contracts, some of which will be expiring during its current planning horizon.

Seminole plans and maintains a system having capacity sufficient to meet summer and winter peak demands with a reserve margin of at least 15%. Seminole develops its load forecast with the active input of its Members. Based on the load forecast that was prepared for its 2000 Ten Year Site Plan, Seminole determined that it would fall short of the 15% minimum standard by 160 MW in 2004 unless it took appropriate action. It began the process of identifying the appropriate means of maintaining acceptable reliability.

Seminole's planning process is based on the objective of minimizing revenue requirements. Seminole uses the PROMOD IV production costing simulation model to calculate the revenue requirements of its system under assumed scenarios. Inputs to PROMOD IV include the load forecast and Seminole's fuel forecast, which is also developed in-house. To address its need, Seminole first simulated the system under projected 2004 conditions to assess the type of generating capacity--base, intermediate, or peaking--that would be the most appropriate addition. Based upon the results of the simulation and Seminole's knowledge of the range of capacity factors necessary to render a base-loaded, pulverized coal unit economically feasible, Seminole discarded that option at an early stage.

Having determined that it would require intermediate or peaking capacity in 2004, Seminole prepared a Request for Proposals ("RFP") and distributed it widely to potentially interested providers. Simultaneously, Seminole asked Black and Veatch to provide detailed costs of a combined cycle unit and of a peaking unit, to identify Seminole's self-build option. Based on strategic considerations, including the desire to balance the components of owned and purchased resources in its supply portfolio, Seminole preferred to address its 2004 need through a power purchase arrangement, but was prepared to pursue the self-build option in the event it offered material savings compared to the other options.

Seminole received five peaking proposals and eight combined cycle proposals to meet its 2004 need for capacity. These included Calpine's Osprey Energy Center ("Osprey Project" or "Project") proposal, which had been under discussion by the parties prior to the issuance of the RFP and which Seminole evaluated as part of the RFP process.

Seminole evaluated the proposals in stages. In the first stage, Seminole modeled its system

with a hypothetical, generic combustion turbine ("CT") to identify the manner in which a CT could be expected to operate. When performing the evaluation, Seminole incorporated an updated load forecast, the effect of which was to increase the amount of needed capacity to 201 MW, given Seminole's existing inventory of sources. Combining the indicated operating characteristics with bid data, Seminole developed an average annual cost per megawatt hour for each bid and ranked the bids on that basis. It compared the least expensive peaking proposal to the cost of additional partial requirements ("PR") service and to the least expensive combined cycle proposal. As the peaking proposal was more costly than either, the five peaking proposals were excluded from further consideration.

When evaluating the "intermediate" offers, Seminole first used a stand-alone screening approach to produce a short list of the four most attractive proposals available to meet its 2004 need. Calpine's Osprey Project received the highest ranking. At this point, Seminole determined that the offers of combined cycle capacity were more economical and cost-effective than an existing 150 MW contract with Florida Power Corporation that Seminole can adjust or terminate with three years' advance notice. To reflect the availability of this cost-effective option, and to increase the range of its strategic options, Seminole adjusted the identified amount of needed capacity to 350 MW.

Seminole then performed separate, detailed iterations of its production costing simulations in which it hypothetically added each of the short-listed bid proposals to the Seminole system. Seminole calculated the system revenue requirements of each "bid scenario" over the period 2004-2008. Under this more rigorous analysis, the Calpine Osprey Project continued to be the most cost-effective alternative, relative to the other top three RFP responses. The Calpine proposal is also more cost-effective than Seminole's self-build option.

Based upon Seminole's selection of Calpine's bid, Seminole and Calpine have negotiated many fundamental commercial terms and conditions, which are memorialized in a Memorandum of Understanding. (Appendix I-C). The terms provide both economic and strategic benefits to Seminole. Seminole will obtain 350 MW of firm capacity at pricing that reflects the economies of scale of an efficient, 500+ MW class combined cycle machine. The firm capacity will enable Seminole to meet or exceed its minimum reserve margin criterion in 2004. As Calpine intends to place the Osprey Project in service during the summer of 2003, the risk to Seminole that additional capacity may not be in place when needed to maintain an adequate reserve margin is reduced greatly. The purchase from Calpine will contribute to Seminole's efforts to minimize the system revenue requirements borne by its Members. Seminole will also be entitled to acquire optional firm capacity, for incremental periods of 12 months, in amounts up to the full capability of the Osprey Project, to the extent the capacity has not been committed to another party on a firm basis at the time Seminole wishes to exercise its option. Significantly, Seminole can renegotiate the terms of the agreement with Calpine at the end of each 60-month period, meaning that it will have the ability periodically to obtain market-based pricing or exit the contract. These provisions give Seminole a valuable degree of flexibility with which to respond to any changes in circumstances.

Seminole and Calpine anticipate that they will complete a definitive power purchase agreement on or before December 19, 2000.

B. DESCRIPTION OF SEMINOLE

Seminole Electric Cooperative, Inc., 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' service areas, which comprise approximately one half of the land area of peninsular Florida. Seminole is an "electric cooperative" within the meaning of Section 403.503(13), Florida Statutes. Seminole fulfills its functions by generating, transmitting, purchasing, selling, and exchanging electric power and energy, and by constructing, owning, and/or leasing such facilities as are required for this purpose.

The Seminole Member cooperatives are:

- 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

Seminole's load is located within three control areas: those of FPC, FPL, and Seminole's Direct Service Area ("SDS"). Within the FPL and SDS areas, Seminole is obligated to serve total Member system load. Under a long-term Partial Requirements Agreement with FPC, Seminole is obligated to supply its Members' aggregate load in the FPC control area up to a specified MW commitment level ("Capacity Commitment"). FPC is responsible for providing load following service for all loads in excess of the Capacity Commitment level.

Seminole owns 52 miles of 230 kilovolt ("kV") double circuit transmission line from the Seminole Plant to the Silver Springs North Switching Station, eight miles of 230 kV double circuit line from the Seminole Plant to FPL's Rice Substation, and nine miles of 230 kV double circuit line from the Hardee Power Station to FPC's Vandolah Substation. Seminole also owns 78 miles of 230 kV single circuit transmission line from the Hardee Power Station ("HPS") to Lee County Electric Cooperative's Lee Substation (which is also an interconnection with FPL), and 63 miles of 230 kV single circuit line from the Seminole Plant to an interconnection with JEA at the Clay-Duval County line. Seminole jointly owns, with FPC, two tie lines from Silver Springs North to FPC's Silver Springs Substation. Seminole also owns fourteen 69 kV transmission lines, which total 143.2 miles in length.

Seminole meets its power supply obligations through a combination of owned and purchased resources. Seminole Units 1 & 2, 600 MW class coal-fired units, went into commercial operation in 1984 and 1985, respectively. Seminole also owns a 14.5 MW share of FPC's Crystal River 3 ("CR3")

nuclear generating unit.

Seminole has contracts with the Jacksonville Electric Authority (JEA) for 53 MW of firm capacity through May 21, 2004. Seminole has also contracted with the Orlando Utilities Commission ("OUC") for 75 MW of firm capacity through 2004 and for an additional 50 MW of firm capacity through 2000. Further, Seminole has contracted with FPC for the following purchases: 450 MW of firm capacity through 2001; 150 MW of firm system intermediate capacity through 2013 (cancellable with 3 years' notice); 150 MW of firm system peaking capacity for the period 2000 through 2002; and an additional 150 MW of firm system peaking capacity for the period 2001 through 2002. Seminole purchases partial and/or full requirements power from FPC, the City of Gainesville, and Tampa Electric Company. Seminole has also contracted for the following: with Lee County Resource Recovery for approximately 35 MW of capacity through December 2014; with Morgan Stanley for 100 MW of firm winter capacity for the period December 2000 to February 2001; with the City of Tallahassee for firm capacity in the amount of 50 MW for the period December 2000 to March 2001; and with the City of Tallahassee for firm capacity in the amount of 75 MW for the period May 2000 to November 2001.

Through a contract with TECO Power Services ("TPS"), Seminole purchases 145 MW of capacity from the Big Bend 4 ("BB4") coal unit (a 488 MW unit) and a nominal 295 MW of first call reserve capacity from the HPS. Seminole has first priority use of BB4 capacity for any purpose, subject to an annual energy cap. Seminole has first priority use of the HPS as a reserve resource to cover a forced or scheduled outage or reduced capability of Seminole's coal-fired plant or CR3. The term of the contract is through 2012; however, the BB4 capacity reverts back to TPS in 2003.

Seminole's plans include the installation of Payne Creek Generating Station ("PCGS"), a 500 MW nominally rated gas-fired combined cycle unit. The Florida Public Service Commission issued its order approving the need for PCGS in 1994, and in 1995 Seminole received certification of the unit from the Florida Electrical Power Plant Siting Board pursuant to the Florida Electrical Power Plant Siting Act. Construction began on the PCGS in February 2000; the scheduled in-service date is January 2002.

Seminole recently entered into contracts for peaking capacity with Reliant Energy Osceola, LLC, and Oleander Power Project, Limited Partnership. Reliant will supply 300 MW for the period December 2001 through December 2006. Oleander will supply 300 MW beginning in December 2002 and increasing to 450 MW in May 2003 through December 2009.

C. SEMINOLE'S NEED STUDY

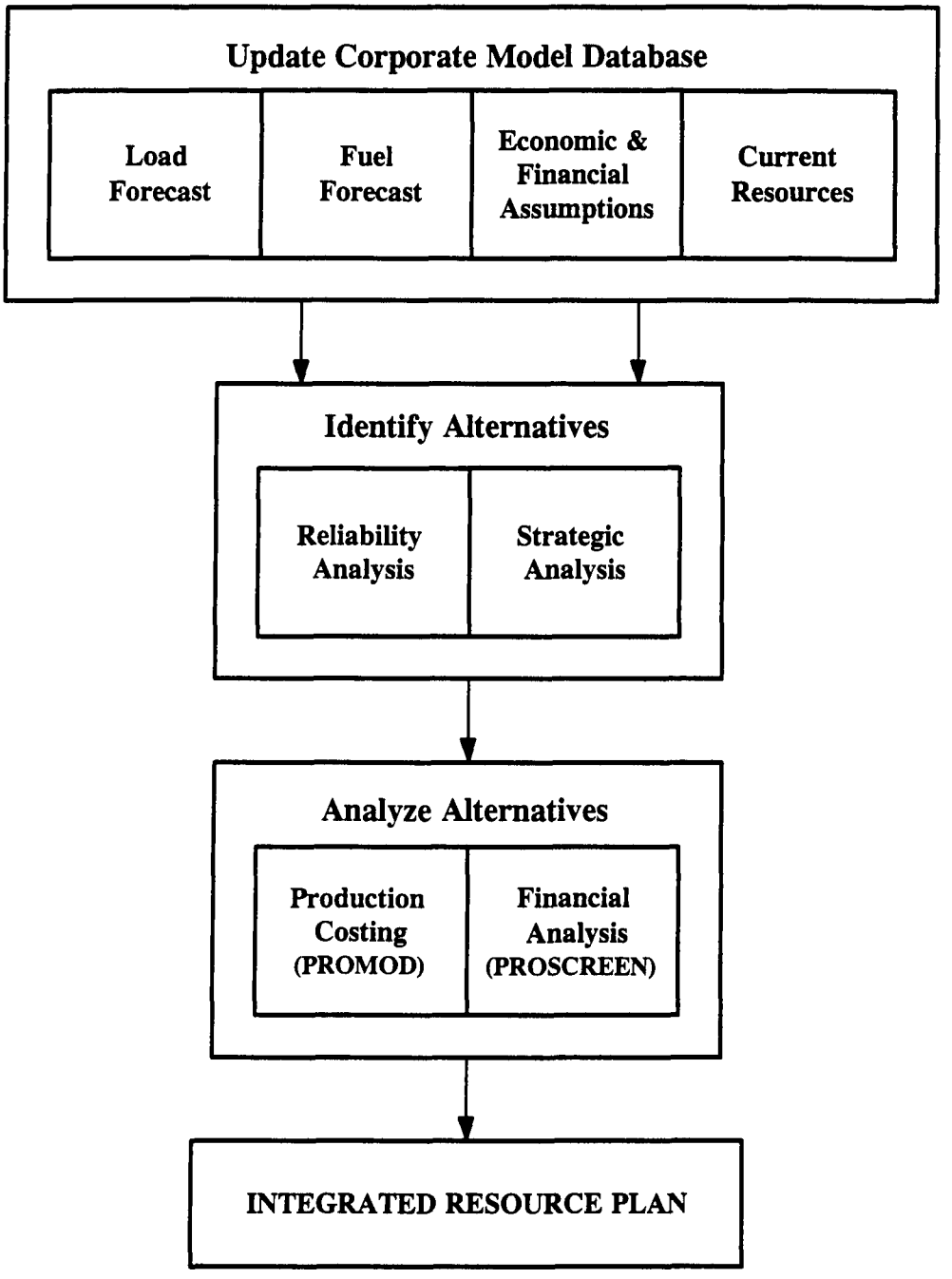
1. THE PLANNING PROCESS

Seminole's primary planning goal is to develop the most cost-effective way to meet its Members' load requirements while maintaining high system reliability. Seminole regularly updates its power supply plan to determine: (1) future reserve requirements--both installed reserves and operating reserves, (2) requirements to replace expiring contracts, (3) the optimal mix of base, intermediate and peaking capacity (4) the economic feasibility of displacing PR service with more economical sources, and/or (5) exercising options within existing purchase power contracts.

Seminole's process for optimizing the selection of resources is based primarily on measuring and minimizing the total cost of revenue requirements. Inasmuch as Seminole is a not-for-profit cooperative, revenue requirements translate directly into rates to the Member Distribution Cooperatives. The plan with the lowest revenue requirements is generally selected, assuming that other factors, such as impact on reliability, initial rate impact, and strategic considerations, do not override economics. A flow chart of Seminole's planning process is shown in the following figure.

Figure 1

Resource Planning Process



a. Optimization of Partial Requirements Service

As part of its routine planning process, Seminole compares the economics of PR purchases from FPC with those of acquiring peaking capacity, whether owned or purchased for the system. Seminole's PR contract provides Seminole the ability to make annual adjustments to the Capacity Commitment. An optimization analysis identifies the most economical annual level of PR achievable under contract constraints and the associated Capacity Commitment. This commitment level defines the amount of firm capacity that Seminole must supply in the FPC control area.

b. Reliability Criteria

Seminole presently uses a minimum 15% system peak reserve margin (as that minimum figure may be increased by specific operating reserve requirements allocated to Seminole by the FRCC at a given point in time) as its primary criterion of reliability. To meet this criterion, supply plans include adequate firm resources having a total capacity 15% greater than Seminole's annual maximum summer and winter peak demands. Since the mid-80s, Seminole has also planned to meet a criterion of no more than 1% Expected Unserved Energy (EUE). At first, the EUE target resulted in a reserve margin higher than the 15% minimum requirement. As Seminole's system and resources have grown and diversified, the two criteria have approached each other and crossed over such that reserve margin is now the determinative criterion.

c. Effect of Conservation and Load Managment Measures on Capacity Requirements.

Seminole's future demand is defined by the sum of the forecasted coincident demands in the FPL control area and the Direct Service Area, and the Capacity Commitment level in the FPC control area. As the forecast of demand is developed in close cooperation with the Member cooperatives, the forecast takes into account the impact of Members' conservation/load management programs. While

Seminole has no direct conservation program, it has adopted a rate structure designed to send proper price signals to Members that will encourage the use of cost-effective load management measures.

d. Determination of Type of Capacity Needed

Once total demand is identified, the need for capacity is determined by comparing demand with available resources. The need for capacity is further analyzed to determine the most economic level of base, intermediate and peaking capacity with which to serve Seminole's future demand. The costs of peaking and intermediate capacity, both owned and purchased, together with the energy pricing of each is analyzed to identify the optimal breakpoints for the intermediate and peaking portions of the supply portfolio.

2. CAPACITY NEEDS

a. Timing of need

In its 2000 power supply study, Seminole compared the ability of system resources to maintain a 15% reserve margin during peak periods over time, given the duration of existing purchased power contracts and the forecast of the growth of Members' requirements. The analysis revealed that, absent action by Seminole, the reserve margin would fall below 15% in the year 2004 and would deteriorate thereafter. The projected reserve margin over time, assuming no capacity additions, is shown in the following tables.

Table 1

Winter Reserve Margin (No Addition)

Year	Capacity (MW)	Demand (MW)	Reserve Margin (%)
2004	3362	2807	19.8
2005	3224	2902	11.1
2006	3224	2966	8.7
2007	2860	3074	-7.0
2008	2860	3186	-10.2
2009	2860	3298	-13.3

Table 2

Summer Reserve Margin (No Addition)

Year	Capacity (MW)	Demand (MW)	Reserve Margin (%)
2004	2897	2596	11.6
2005	2897	2682	8.0
2006	2897	2738	5.8
2007	2591	2838	-8.7
2008	2591	2942	-11.9
2009	2591	3045	-14.9

b. Quantity of Capacity Needed

Having determined when reserves would fall below its planning criterion, Seminole next measured the amount of capacity that would be needed to restore reserve margin to the minimum

acceptable level. This quantification was made without regard to the sizes in which increments of capacity would be available. (The quantification was first based on the load forecast which underlies Seminole's 2000 Ten-Year Site Plan. It was subsequently revised to reflect an updated load forecast made in July 2000. The updated load forecast is detailed in Section E and Appendix I-A of this volume.)

The table below lists the number of megawatts of capacity needed to restore the 15% reserve margin, on a seasonal basis, for the years 2004 through 2009. These needs take into account Capacity Commitment optimization, incorporation of the most recent load forecast, and expiring purchase power contracts.

Table 3

Future Capacity Needs

	Current Winter Need			Current Summer Need		
Year	Intermediate	Peaking	Total	Intermediate	Peaking	Total
2004	0	0	0	201	0	201
2005	173	0	173	287	0	287
2006	242	0	242	343	0	343
2007	450	273	723	450	299	749
2008	550	294	844	550	303	853
2009	600	365	965	600	356	956

c. Capacity Expansion Plan

The above capacity needs are expressed in terms of the bare minimum necessary to maintain the planning criterion. Seminole translated these needs into a capacity expansion plan. To determine the type of generation that should be incorporated in the plan Seminole used PROMOD IV, a

production costing simulation model, to quantify the amount of energy usage and to identify the hours over which the usage would occur. Seminole regarded proven technologies for base, intermediate capacity, and peaking capacity, generation as potential candidates. For base-loaded capacity, Seminole evaluated a conventional pulverized coal unit; for intermediate, gas-fired combined cycle technology; and for peaking, gas- or oil-fired combustion turbines. Each of these technologies has a proven track record and has been demonstrated to be technically viable and reliable.

Seminole has developed screening criteria, in the form of breakpoint capacity factors, designed to identify whether each of these technologies is an economically viable candidate for a given application. Under Seminole's current screening criteria, a pulverized coal unit must operate at a capacity factor of 87% or higher to be an economic choice. Based on simulations of the system, which indicated that a lower capacity factor would be achieved, Seminole discarded the pulverized coal unit option early in its analysis.

The simulations indicated that the intermediate generation technology would be the most economic choice. Seminole constructed a generation expansion plan by matching commercially available increments of combustion turbines and "one-on-one" combined cycle units (i.e., a configuration employing a single combustion turbine and a single heat recovery steam generator) to the required capacity as closely as possible. This plan, shown in Table 4, is Seminole's minimum self-build or "back-stop" plan.

Table 4

Planned and Prospective Generating Facility Additions and Changes

Plant Name	Unit No.	Location	Unit Type	Fuel		Fuel Transport		Construction Start Mo/Yr	Comm'l In-Service Mo/Yr	Expected Retirement Mo/Yr	Maximum Nameplate (kW)	Summer (MW)	Winter (MW)	Status
				Pri	Alt	Pri	Alt							
Payne Creek Gen. Station	1	Hardee County S1,T33S, R24E	CC	NG	FO2	PL	TK	01/2000	01/2002	Unk	587,000	488	572	U
Unk	1	Unk	CC	NG	FO2	PL	TK	06/2002	06/2004	Unk	290	244	286	P
Unk	1	Unk	GT	FO2		TK		06/2003	06/2005	Unk	193	153	182	P
Unk	1	Unk	CC	NG	FO2	PL	TK	01/2005	01/2007	Unk	290	244	286	P
Unk	1	Unk	GT	FO2		TK		06/2005	06/2007	Unk	193	153	182	P
Unk	1	Unk	GT	FO2		TK		06/2006	06/2008	Unk	193	153	182	P
Total												1,435	1,690	

Notes:

Payne Creek Generating Station capacity will replace purchased capacity beginning 01/01/2002 and is being counted for reserve purposes in 2002.

Unk:	Unknown
U:	Regulatory approval received. Under construction.
P:	Planned, but not authorized by utility.

Seminole then incorporated the "self-build" additions into an overall system formulation. Tables 5 and 6 list Seminole's projected demand and planned capacity for the period 2000 through 2009. These tables encompass the addition of 572 MW of Combined Cycle capacity for the period 2004 through 2008 at unknown sites, and 546 MW of peaking capacity.

Table 5

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

	Total Installed Capacity	Firm Capacity Import (Less PR/FR)[1]	Firm Capacity Import (PR/FR)	Firm Capacity Export	QF[2]	Total Capacity Available	Total Capacity Available Less PR/FR	System Firm Summer Peak Demand	System Firm Summer Obligation[3]	Reserve Margin Before Maintenance[4]		Scheduled Maintenance	Reserve Margin After Maintenance[4]	
	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(% of Pk)	(MW)	(MW)	(% of Pk)
2000	1,331	1,182	332	0	298	3,143	2,811	2,651	2,319	492	26.4%	0	492	26.4%
2001	1,331	1,314	279	0	298	3,222	2,943	2,770	2,491	452	24.0%	0	452	24.0%
2002	1,819	1,058	257	0	298	3,432	3,175	2,868	2,611	564	26.1%	0	564	26.1%
2003	1,819	1,058	299	0	298	3,474	3,175	2,972	2,673	502	19.9%	0	502	19.9%
2004	2,063	930	328	0	298	3,619	3,291	3,074	2,746	545	21.0%	0	545	21.0%
2005	2,216	930	347	0	298	3,791	3,444	3,179	2,832	612	22.8%	0	612	22.8%
2006	2,216	930	400	0	298	3,844	3,444	3,288	2,888	556	20.3%	0	556	20.3%
2007	2,613	624	412	0	298	3,947	3,535	3,400	2,988	547	19.3%	0	547	19.3%
2008	2,766	624	422	0	298	4,110	3,688	3,514	3,092	596	20.3%	0	596	20.3%
2009	2,766	624	435	0	298	4,123	3,688	3,630	3,195	493	16.2%	0	493	16.2%

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.

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.

Table 6

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

	Total Installed Capacity	Firm Capacity Import (Less PR/FR)[1]	Firm Capacity Import (PR/FR)	Firm Capacity Export	QF[2]	Total Capacity Available	Total Capacity Available Less PR/FR	System Firm Winter Peak Demand	System Firm Winter Obligation[3]	Reserve Margin Before Maintenance[4]		Scheduled Maintenance	Reserve Margin After Maintenance[4]	
	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(% of Pk)	(MW)	(MW)	(% of Pk)
2000	1,345	1,273	745	0	362	3,725	2,980	3,237	2,492	488	24.0%	0	488	24.0%
2001	1,345	1,448	735	0	362	3,890	3,155	3,413	2,678	477	23.0%	0	477	23.0%
2002	1,917	1,132	734	0	362	4,145	3,411	3,542	2,808	603	25.6%	0	603	25.6%
2003	1,917	1,078	796	0	362	4,153	3,357	3,672	2,876	481	17.6%	0	481	17.6%
2004	1,917	1,233	848	0	362	4,360	3,512	3,805	2,957	555	19.8%	0	555	19.8%
2005	2,203	1,095	889	0	362	4,549	3,660	3,941	3,052	608	21.0%	0	608	21.0%
2006	2,385	1,095	967	0	362	4,809	3,842	4,083	3,116	726	24.5%	0	726	24.5%
2007	2,671	731	1,004	0	362	4,768	3,764	4,228	3,224	540	17.6%	0	540	17.6%
2008	2,853	731	1,040	0	362	4,986	3,946	4,376	3,336	610	19.1%	0	610	19.1%
2009	3,035	731	1,079	0	362	5,207	4,128	4,527	3,448	680	20.6%	0	680	20.6%

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.
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.

3. REQUEST FOR PROPOSALS

a. Description of RFP

Having identified the amount of capacity needed to maintain the minimum 15% reserve margin, and having developed the "self-build" expansion plan, Seminole initiated a competitive procurement process designed to identify and obtain the most cost-effective solution to its projected reserve margin shortfall. Seminole issued a Request for Proposals (RFP), No. IP2004, on July 6, 2000. (Appendix I-B). Its purpose was to solicit bids for intermediate and peaking capacity, beginning in 2004. Seminole solicited proposals to satisfy a minimum need of 160 MW of intermediate type capacity beginning May 1, 2004. Seminole also solicited up to 440 MW of additional capacity to potentially displace existing power supply arrangements, beginning January 1, 2004. (The minimum capacity requirement of 160 MW was based upon the load forecast prepared for the 2000 Ten-Year Site Plan. The load forecast was updated shortly following the release of the RFP.) Based upon Seminole's latest load forecast, the details of which are contained in Section E of this volume of the Exhibits, and given the resources presently in place, Seminole measured the minimum intermediate capacity requirements beginning in 2004 to be approximately 200 MW at the outset of the analysis of responses. The parameters of the procurement process were sufficient to accommodate the impact of the revised load forecast: in the RFP, Seminole sought proposals of between 160 and 400 MW of intermediate type capacity and up to 350 MW of peaking type capacity.

Seminole solicited proposals from a wide variety of potential bidders, including independent power producers, exempt wholesale generators, qualifying facilities (under PURPA), power marketers, and utilities. Although the RFP stated that Seminole favored short-term proposals, it also stated that Seminole would consider attractive longer-term bids, as well as proposals describing joint

ownership. The RFP stated that bids offering demand side options would also be accepted and considered.

b. Issuance of the RFP

The RFP was issued in two main sections. The first section described the purpose of the RFP, identified capacity requirements, and addressed scheduling, delivery, pricing, terms and conditions, and instructions for completing and submitting the application. The second section contained a series of application forms that each bidder was required to complete. In the application forms, the bidder was asked to describe the type of capacity offered, the quantity offered (in megawatts), pricing information (fixed and variable), the length of the term, description of the facilities (proposed or existing), fuel information, and detailed operational information. A credit application was also included.

c. Announcement of the RFP

Three methods were employed to announce the RFP : direct communications with potentially interested organizations, a press release, and publication of the RFP on the home page of Seminole's web site. The direct announcements were faxed to over forty entities. Seminole sent the press release to a number of media outlets. The home page of the Seminole web site advertised the RFP until August 31, 2000, the due date for submission of bids.

d. Responses to the RFP

Seminole received a total of fourteen proposals from nine bidders, all of which described purchased power proposals. (These included proposals from entities who had begun discussions with Seminole prior to the issuance of the RFP, including Calpine. Seminole rolled such proposals into the RFP process and evaluated them using the same criteria that were applied to RFP respondents.)

No demand-side measures were proposed in the responses. Seminole received five peaking bids from five separate bidders, four of which described essentially the same type of gas-fired combustion turbine. The peaking capacity offers ranged from 170 MW to 320 MW.

Seminole received nine proposals describing intermediate-type capacity purchases from seven of the nine bidders. One was a system purchase, backed up by a proposed combined cycle facility. One was a repowered facility. Another was a capacity purchase from an integrated gasification combined cycle facility ("IGCC"). The remaining five offers described purchases of varying capacity from combined cycle facilities at proposed plants within Florida. Tables 7 and 8 below summarize the proposals.

Table 7

Peaking Capacity Offers

Capacity Type	Capacity (MW)	Term
GE 7FA CTs	314	2004 - 2008
GE 7FA CTs	170	2004 - 2008
GE 7EA CTs	320	2004 - 2009
GE 7FA CTs	300	2004 - 2008
GE 7FA CTs	300	2004 - 2008

Table 8 Intermediate Capacity Offers		
Capacity Type	Capacity (MW)	Term
Unit Purchase Westinghouse 2x1 501F CC	300-534	2004 - 2008 (options to extend to 20 years)
GE 2x1 7FA CC	475	2004 - 2008
GE 1x1 7FA CC	240	2004 - 2008
GE 1x1 7FA CC	240	2004 - 2008
GE 3x3 7FA CC with Integrated Gasification	100-400	2004 - 2014
System Purchase	200	2004 - 2008
Combined Cycle	200	2004 - 2008
GE 2x1 7FA CC	500	2004 - 2011
GE 3x3 7F CC	50-100	2004 - 2008

4. SELF-BUILD OPTION

In parallel with the RFP process, Seminole retained Black and Veatch to prepare an engineers' estimate of the turnkey costs for a combustion turbine, a one-on-one combined cycle unit, and a two-on-one combined cycle unit. For strategic reasons -- primarily the objective of a balanced mix of owned and purchased resources -- Seminole preferred a short-term purchase power agreement to fill its capacity need; however, if the turnkey self-build option had appeared to provide significant savings over the most economical purchase power proposal, Seminole was prepared to consider it.

5. EVALUATION OF PROPOSALS

a. Methodology and Overview

The System Planning Department, in conjunction with the Strategic Services Department, was given the responsibility for evaluating the bids. First, Seminole reviewed the bids for completeness and responsiveness. As a result of this preliminary screening, all of the bids except the IGCC were accepted (although some of the bidders were contacted for additional information or clarification). The bidder proposing the IGCC unit specified an in-service date later than Seminole's 2004 summer seasonal requirements. In subsequent discussions, the IGCC bidder revised its projected in-service date to May 1, 2005, which was even farther removed from the time when Seminole would first need capacity. Therefore, this proposal was not regarded as a candidate to satisfy the 2004 need. However, the proposal was retained for later consideration, as Seminole must meet needs occurring beyond 2004. Once all of the information necessary for analysis and comparison was available, the bids were separated by capacity type for evaluation.

To compare and evaluate the capacity offers, Seminole used production costing software to simulate its system over the time period 2004 to 2008 -- Seminole's preferred contract term. Production costing software allocates available resources to meet load demands so as to minimize energy costs. For this purpose Seminole uses PROMOD IV, a simulation software which is licensed from NewEnergy Associates, and PROSCREEN, the companion financial software package that calculates system fixed costs. Seminole's Corporate Model links the output from these software tools and generates total system costs. A key input to the computer model is the assumption regarding fuel prices. The fuel forecast contained in Section D of this volume of the Exhibits was the source of the prices that were incorporated in the need analysis.

Peaking - Peaking capacity bids were evaluated in three stages. First, the bids were compared against each other in order to rank the offers based on overall cost. To derive the utilization characteristics necessary to the analysis, Seminole simulated the addition of a combustion turbine to Seminole's resources for the period June, 2004 - December, 2008. The operational parameters for a GE 7 FA unit were used in the simulation, as all but one of the respondents based their proposals on this unit. (The other bidder offered capacity from GE 7EA turbines, which are very similar to the 7FA in operation.) Fuel costs were considered to be a pass-through. The quoted demand costs ($/MW) proved to be the critical variable for peaking capacity, as other variables - fuel costs, hours of operation, start-up costs were equal or substantially similar. Using demand costs plus fixed values for energy, service hours, and the number of unit starts for each bid, Seminole calculated an average annual cost in nominal dollars per megawatt hour. The results of this analysis are shown in the Table 9.

Table 9

Ranking of Peaking Capacity Bids

Average Annual Cost (Nominal $/MWh)	Rank
$_____	1
$_____	2
$_____	3
$_____	4
$_____	5

Next, the bid ranked No. 1 was compared to the cost of equivalent additional PR purchases. This analysis indicated that the least cost bid was not economically superior to the existing PR contract.

In the final stage of the analysis of the peaking bids, Seminole compared the top-ranking bid to the least cost intermediate capacity offer. The comparison confirmed that intermediate capacity is the appropriate and most economic choice to fill Seminole's projected need. Production costing simulations for identical amounts of peaking and intermediate capacity showed that the least-cost peaking bid was not economically competitive with the least-cost intermediate offer. The simulations also exhibited a level of projected usage that supported the need for intermediate capacity. As a result of the analysis of the peaking offers, none of these bids were retained for further evaluation.

Intermediate - Of the nine offers received, five were for capacity from GE 7 FA combined cycle units in various configurations; one was for a similar Westinghouse unit; and one was for a system energy purchase. Another bid did not specify a unit type; characteristics provided in the bid document indicated that it, too, was operationally similar to the GE and Westinghouse combined cycle units. These eight bids contained either energy costs or operational characteristics, including energy output and heat rates, which enabled Seminole to compare the offers directly. The ninth bid offered time-of-day pricing. Seminole converted this proposal to its corresponding average energy cost so that it could be included in the economic screening.

The evaluation of the intermediate proposals consisted of two phases: an initial screening to identify the four most economical choices, followed by a far more rigorous development of the impact of each of the four best alternatives on overall system costs. In the first phase of the evaluation of intermediate capacity proposals, Seminole used its production costing software to model the addition of a generic combined cycle unit to its system resources for the period 2004 through 2008. Operational parameters for a GE 7FA combined cycle unit with a two-on-one configuration were used to produce utilization characteristics which defined the unit's performance. To estimate the financial impact of implementing each of the offers, the total stand-alone cost of each proposal to Seminole

was calculated based on these utilization characteristics, bid criteria and estimated costs. The total cost of each offer included fixed demand costs, fuel and fuel transportation costs, and variable operation and maintenance costs. The costs of offers for units other than the 7FA were adjusted according to unit performance information provided in the proposals. The offers were compared and ranked by overall least cost of energy, which allowed a direct comparison of offers for varying capacity amounts.

b. Detailed Evaluation of Power Supply Contract Options

Once the least-cost bid was identified in the preliminary screening analysis, a production costing analysis was performed to compare this bid to a long-term 150 MW intermediate capacity contract with FPC that Seminole can adjust with proper notice. The bid was determined to be more economical than the FPC contract. To recognize Seminole's ability to substitute capacity from the intermediate offer for the existing power purchase contract on an economic basis, Seminole revised its capacity needs from the amount shown in Table 1 to 350 MW, as shown in Table 10.

Table 10

Revised Future Capacity Needs

Year	Current Winter Need			Current Summer Need		
	Intermediate	Peaking	Total	Intermediate	Peaking	Total
2004	0	0	0	351	0	351
2005	323	0	323	437	0	437
2006	392	0	392	493	0	493
2007	600	273	873	600	299	899
2008	700	294	994	700	303	1003
2009	750	365	1115	750	356	1106

The second and more detailed phase of the evaluation process was designed to scrutinize and compare the top four bidders more closely. Again, production costing simulations were employed. However, instead of using a generic unit to obtain performance characteristics in a stand-alone comparison, in the second phase each specific bid was "added to the system." Seminole then modeled the entire system over time and quantified the total system revenue requirements associated with each scenario. This enabled Seminole to evaluate the proposals based on overall system costs, rather than dollars paid to the developer. Production cost simulations were developed to compare the highest ranked proposal with the bids ranked by the previous analysis as two through four. The No. 1 bid provided flexibility in amount of capacity offered. This aspect enabled Seminole to compare this bid directly to the other offers, which varied in the amounts of capacity offered from 100 MW to 475 MW. In the second phase, demand costs were included in the PROMOD IV studies, so that further processing through the financial software and corporate model was unnecessary.

The first study compared 100 MW from the No. 1 ranked bid to the bids ranked No. 3 and No.

4. These results confirmed the economic advantage of the No. 1 bid, which produced total system revenue requirements that were lower than Bids No. 3 and No. 4, by $_____ and $_____ respectively (in 2004 dollars). Seminole also concluded from these studies that the No. 2 ranked bid was economically superior to Bids No. 3 and No. 4. The last study compared the No. 1 ranked bid to the No. 2 ranked bid with 350 MW of capacity. The comparison showed that bid No. 1 would save Seminole $_____ ($_____ per 100 MW) in system revenue requirements over the 4-1/2 year period, as compared to the No.2 bid.

As a result of this second phase evaluation process, the No. 1 ranked bid was confirmed as the least-cost intermediate capacity alternative. The next three bids retained their original positions as No. 2, No. 3 and No. 4.

Finally, Seminole compared the costs of the No. 1 ranked bidder to the turnkey self-build engineers' estimates prepared by Black and Veatch. Seminole analyzed the self-build alternatives under several forecasts of future financial conditions. The financing options included Rural Utilities Services ("RUS") guaranteed financing at 6% interest with a 30-year loan period; RUS guaranteed financing at 6% with a 17-year loan period (the time remaining on the Seminole-Member Wholesale Power Contract); and non-RUS guaranteed financing at 7% interest. When comparing the costs of the self-build option with the power purchase option, Seminole assumed that purchasing power instead of constructing a unit would have no effect on Seminole's cost of capital. It has been Seminole's experience that RUS, Seminole's principal source of financing, does not regard the purchase option as more risky than the self-build option. Unit cost averages for the first five years of ownership and over the loan terms were compared with the costs of the No. 1 ranked purchase power offer. The results of the analysis are summarized in Table 11.

Table 11 Calpine Osprey : Savings (PVRR) when compared to:			
Bidder	Period of Comparison	MW	Additional Costs
Bidder 2	2004 - 2008	350	$_____
Bidder 3	2004 - 2008	350	$_____
Bidder 4	2004 - 2008	350	$_____
Seminole self-build	2004-2008	350	$_____

Note: The above self-build cost assumes that the capacity not needed by Seminole could be sold for the time period not needed. For purposes of the comparison, costs were based on the assumption that each bidder would offer 350MW.

After taking comparative costs and strategic concerns into account, the No. 1 ranked bid, submitted by Calpine, was selected as the preferred Seminole option to fulfill the 2004 need.

6. MEMORANDUM OF UNDERSTANDING

Based on the results of the evaluation of competing proposals, Seminole and Calpine negotiated basic commercial terms, which are reflected in the Memorandum of Understanding, a copy of which is included as Appendix I-C to Volume 1 of Exhibits to the Joint Petition. (The public version has been redacted to protect confidential, commercially sensitive terms.)

The terms to which Seminole and Calpine have agreed provide significant benefits to Seminole. While Seminole is acquiring 350MW of firm capacity, the pricing provisions in the MOU reflect the efficiencies and economies of scale that are associated with a 500+ MW class unit. Seminole's ability to purchase optional firm capacity (to the extent it has not been firmly committed to others) enhances its strategic flexibility. Because Calpine intends to bring the unit on line prior to

the time when Seminole would experience a capacity shortfall, the risk that capacity may not be available when needed for reliability is diminished. The reopener provisions to which the parties have agreed ensure that Seminole will not find itself with a long term commitment to above-market costs.

7. CONSEQUENCES OF DELAY

Through a competitive bidding and negotiation process, Seminole has determined that the purchase from Calpine of combined cycle generating capacity beginning in mid-2004 is the most cost-effective method of meeting its Members' power supply needs reliably. If Seminole's need determination is not granted, it will be forced to seek power purchases from other sources, if available, or to add shorter lead-time combustion turbines to maintain acceptable system reliability. Either of these alternatives would be only a temporary solution and would result in increased costs to Seminole's Members.

D. FUEL PRICE FORECAST

This section summarizes Seminole's Fuel Price Forecast. This forecast was used in the economic evaluations of available alternatives to meet Seminole's need which led Seminole to identify the Osprey Project proposed by Calpine as its most cost-effective choice. The forecast encompasses the prices of gas, oil and coal for the period from 2000 through 2009. Seminole's fuel forecast is similar to other published forecasts covering the same time period.

1. LONG TERM TRENDS VS. SHORT TERM ABERRATIONS

Seminole prepared this forecast before oil and gas prices spiked during the past few months. Seminole believes the current prices are a response to OPEC, international limitations on oil production, and a short term imbalance in natural gas production. Current market prices for oil and natural gas, which are described below, illustrate just how volatile the pricing of these fuels can be in the short term. Seminole believes the underlying economic fundamentals relating to oil and natural

gas have not changed from the time we made our long term price forecast. Seminole fully expects prices to return to the forecast range in the not too distant future.

2. FORECAST METHODOLOGY

Seminole forecasts the price for each fuel at its source. The U.S. Gulf Coast was considered the source for gas and oil. For coal, this forecast covers high-sulfur coal mined in the Illinois Basin and the Pittsburgh # 8 coal seam in West Virginia. All prices are stated in nominal dollars.

3. NATURAL GAS MARKET OUTLOOK

Seminole forecasts the wellhead price of natural gas to increase at a moderate rate somewhat slower than the rate of economic inflation. The primary sources of natural gas for the USA are domestic on-shore wells and Gulf of Mexico wells. A small but increasing quantity of natural gas comes from Canadian wells and imported liquified natural gas. The federal Energy Information Administration projects a 50% increase in consumption of natural gas over the next two decades. This increase is due, in large measure, to the construction of new gas-fired combined cycle power plants. The natural gas production industry has a remarkable record of technological advances, which lower the cost of producing gas from new wells, enable the economic recovery of gas from previously inaccessible reserves, and lead to the discovery of previously unknown reserves. Experts predict this trend will continue and that the industry will expand production to meet demand with only modest increases in the wellhead price of natural gas. Seminole's forecast of wellhead gas price is slightly below the range of forecasts published by gas industry associations and national economic forecasting organizations.

The high gas price case assumes that technological developments do not keep pace and new production becomes more expensive.

The low gas price case could occur if unforseen technological developments reduce the cost of new production and/or lead to discovery of new, low cost reserves.

4. OIL MARKET OUTLOOK

The price forecast for oil assumes that the long-term historic market trends will continue. Consumption will continue to rise while domestic production declines and imports of oil continue to increase. The base case also assumes there are no international conflicts which cause a long-term disruption in oil imports. This is of particular importance, since world oil prices are strongly influenced by OPEC, as opposed to economic factors. These assumptions lead us to forecast a steady growth in the price of oil consistent with the underlying historic trend.

The high oil price case assumes that OPEC strengthens its influence over its Members so that production quotas are honored, production is limited, and prices increase. Conversely, the low oil price case foresees a relatively weak OPEC, with Member and non-Member nations maintaining a high production rate which would reduce the price of oil over time.

5. COAL MARKET OUTLOOK

Coal prices are forecast in terms of dollars per ton ($/ton) at the producing mine. During the study period, prices are forecast to increase at a very moderate rate. Several factors combine to limit the rate of price increases for coal. There are abundant reserves of coal, which will support all needed new production. Overall industry production is expected to remain in close balance with consumer demand. Technological advances and improvements in efficiency are expected to continue their historic contributions to productivity gains. These factors are expected to have a moderating effect on the rate of increase in coal prices.

The high case pricing scenario contemplates more stringent environmental regulation of mining which constrains the growth of production, the cessation of improvements in productivity, and

an increasing demand for low sulfur coal. The low case pricing scenario contemplates additional technological advances which increase productivity and contribute to an over-supply of coal.

6. FORECAST RESULTS

Natural gas, distillate oil, and coal price projections are shown in Table 12 and Figure 2. Table 12 contains a table showing the base case, high range and low range forecast. Figure 2 is a graph of this data. The Seminole base case gas price forecast is compared to other forecasts in the graph contained in Figure 3.

TABLE 12
FUEL PRICE FORECAST

YEAR	WELLHEAD GAS U.S. GULF COAST PRICE NOMINAL $/MMBTU			DISTILLATE FUEL OIL U.S. GULF COAST PRICE NOMINAL$/MMBTU		
	LOW RANGE	BASE CASE	HIGH RANGE	LOW RANGE	BASE CASE	HIGH RANGE
2000	$1.932	$2.341	$2.757	$4.193	$4.331	$4.457
2001	$1.904	$2.397	$2.917	$4.111	$4.388	$4.646
2002	$1.877	$2.454	$3.087	$4.031	$4.445	$4.844
2003	$1.850	$2.513	$3.266	$3.953	$4.502	$5.049
2004	$1.823	$2.573	$3.456	$3.876	$4.561	$5.264
2005	$1.796	$2.635	$3.657	$3.800	$4.620	$5.487
2006	$1.770	$2.699	$3.869	$3.726	$4.680	$5.720
2007	$1.745	$2.763	$4.094	$3.654	$4.741	$5.963
2008	$1.719	$2.830	$4.332	$3.583	$4.803	$6.216
2009	$1.694	$2.898	$4.584	$3.513	$4.865	$6.480

YEAR	HIGH SULFUR COAL MINE MOUTH PRICE NOMINAL $/MMBTU		
	LOW RANGE	BASE CASE	HIGH RANGE
2000	$0.804	$0.825	$0.844
2001	$0.788	$0.831	$0.868
2002	$0.773	$0.838	$0.893
2003	$0.758	$0.847	$0.919
2004	$0.743	$0.855	$0.946
2005	$0.729	$0.864	$0.973
2006	$0.715	$0.874	$1.002
2007	$0.701	$0.884	$1.031
2008	$0.687	$0.893	$1.061
2009	$0.674	$0.903	$1.091

FIGURE 2

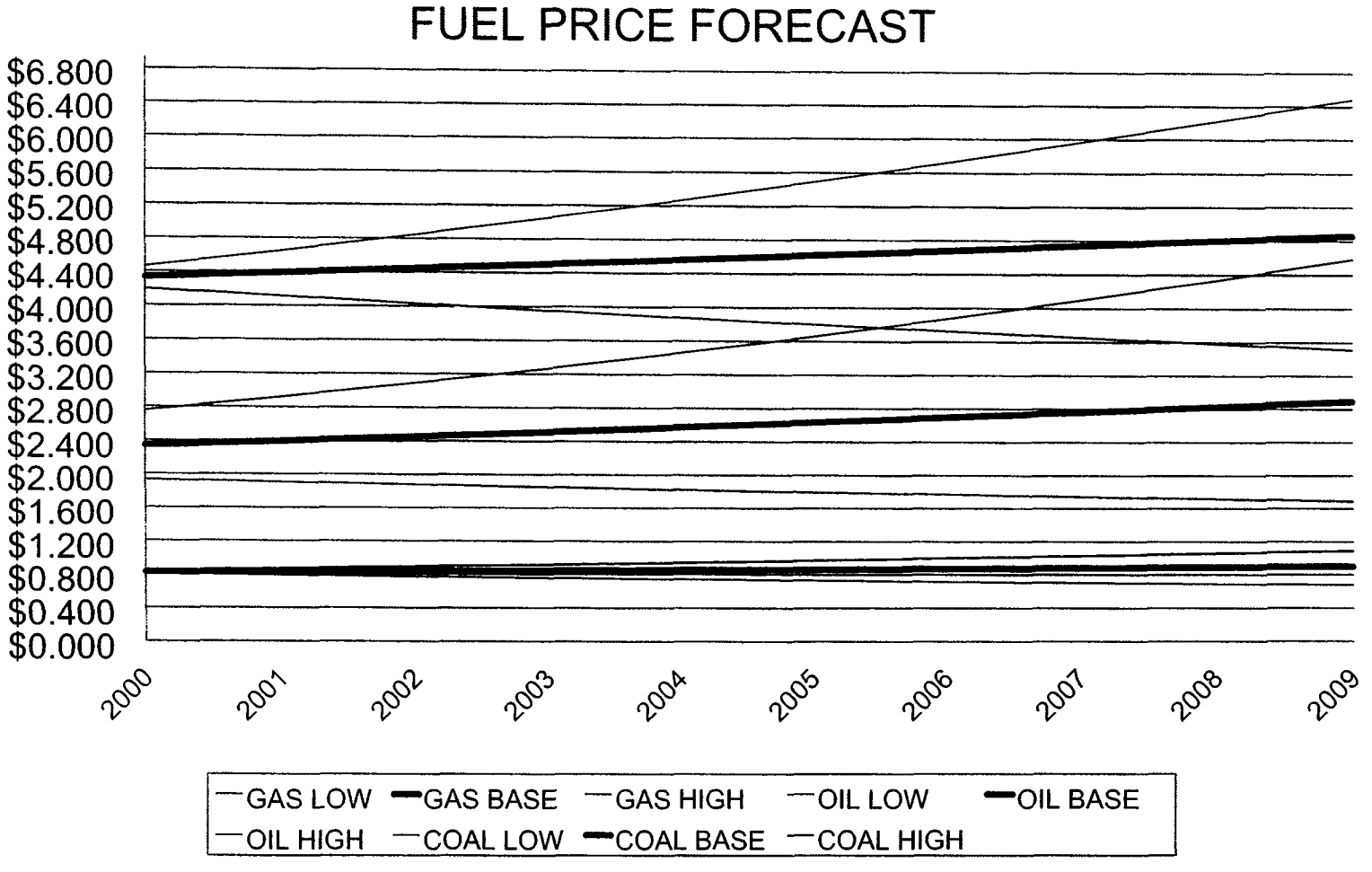
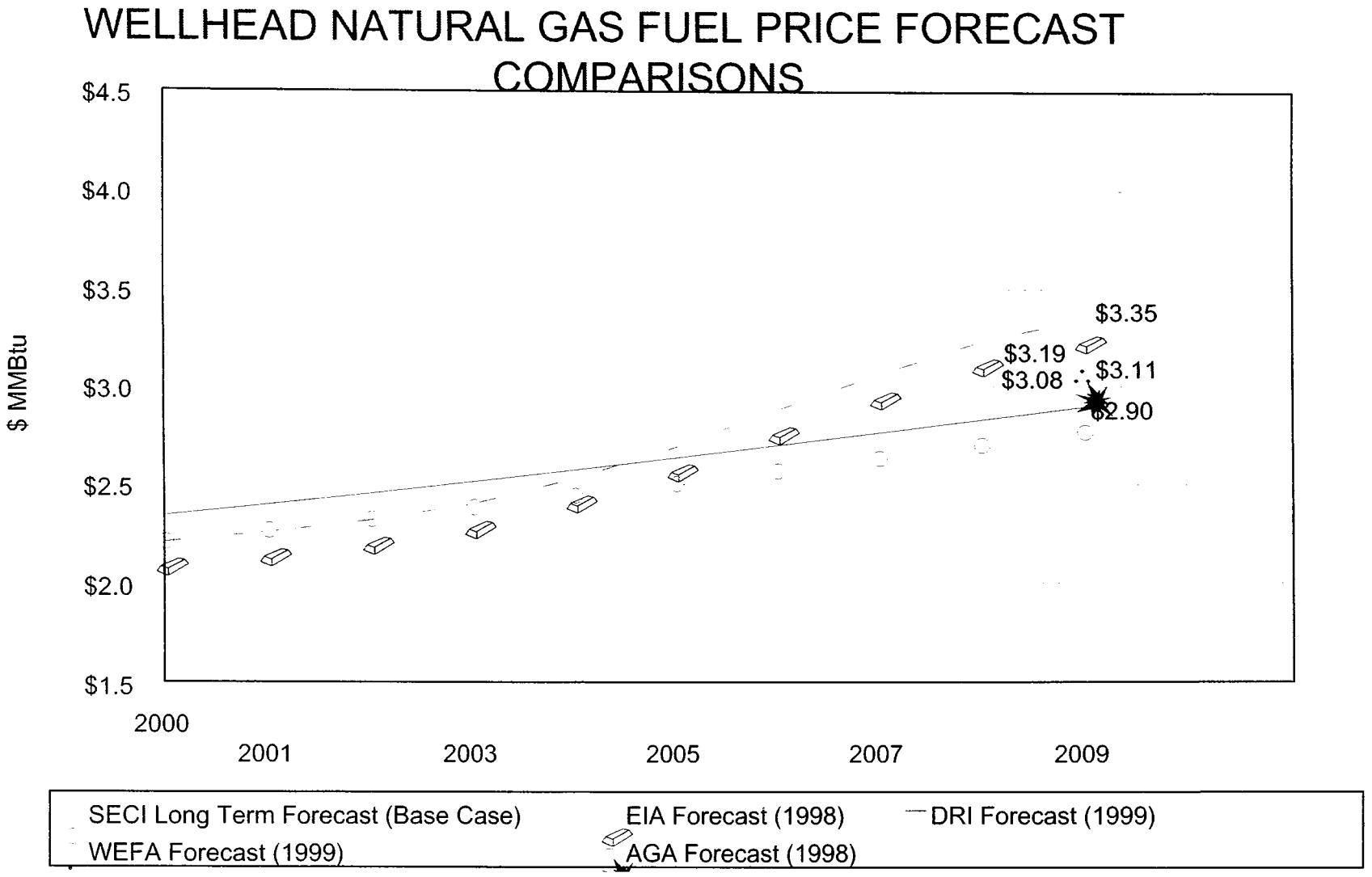

FUEL PRICE FORECAST
$6.800
$6.400
$6.000
$5.600
$5.200
$4.800
$4.400
$4.000
$3.600
$3.200
$2.800
$2.400
$2.000
$1.600
$1.200
$0.800
$0.400
$0.000
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
GAS LOW
GAS BASE
GAS HIGH
OIL LOW
OIL BASE
OIL HIGH
COAL LOW
COAL BASE
COAL HIGH

FIGURE 3


WELLHEAD NATURAL GAS FUEL PRICE FORECAST COMPARISONS
$ MMBtu
$4.5
$4.0
$3.5
$3.0
$2.5
$2.0
$1.5
2000
2001
2003
2005
2007
2009
$3.35
$3.19
$3.08
$3.11
$2.90
SECI Long Term Forecast (Base Case)
EIA Forecast (1998)
DRI Forecast (1999)
WEFA Forecast (1999)
AGA Forecast (1998)

E. LOAD FORECAST

1. BACKGROUND

The analysis of Seminole's need for capacity was initiated with the use of the load forecast that supported Seminole's April 2000 Ten-Year Site Plan. As described in Section C, the analysis was altered and the indicated capacity need was increased based on an updated load forecast that was completed in July 2000. The information in this Section E relates to the updated, July 2000 forecast that is the basis for Seminole's conclusions regarding the reliability of its system.

The 2000 Power Requirements Study (PRS) update was conducted in accordance with a work plan, which was approved by Seminole's Board of Trustees in May 1998 and by the Rural Utilities Service (RUS) in September 1998. The work plan calls for triennial revision of the PRS with annual updates in the interim. The plan also calls for close coordination among the staffs of Seminole, its ten distribution cooperative Members, and the RUS. The purpose of this study is to arrive at forecasts which project future electricity sales and peak demand for Seminole and its Members.

2. METHODOLOGY

Projections for the Seminole system are the result of an aggregation of the Member-level forecasts. Detailed forecasts are prepared for each Member system. Both econometric and end-use modeling are used to produce the final Member-level forecasts. Trends in population, consumers, usage, peak demand, and weather and their interactions are analyzed for each Member system's service area. The 2000 PRS also incorporates the results of the 1997 Residential Survey that was completed in May 1997. This survey analyzed the demographic information, housing stock, and appliance saturations of the residential consumers served by Seminole Members. Seminole has been compiling residential surveys since 1980. Throughout the study, close interaction with Member

systems is maintained in the form of data exchanges, written correspondences, e-mail, and phone consultations. The interactions promote mutual understanding and cooperation between the Member systems, Seminole, and the RUS through exchange of information affecting future sales and demand, discussion of the process and the methodology in the development of the load forecast, and review of the results at each major step of the process. Appendix I-A discusses Seminole's forecasting methodology in greater detail.

3. SERVICE AREA AND ECONOMY

Seminole's Member cooperatives provide electricity to an area approximately 400 miles long, from the northern border to southwestern parts of Florida. The variety of geographic and weather conditions provides a diverse mix of economic activity and demographic characteristics.

The northern region shares many physical and cultural characteristics with the two states to the north, Georgia and Alabama. Agriculture, mining, and manufacturing are important industries in the region. This region has experienced moderate, but continued growth in population and economic activities.

The southwest coastal region relies heavily on the construction and service industries for its economic growth. In addition, many of its new residents are relatively affluent retirees, leading the state in per capita income growth and stability.

The interior peninsular region is quite diverse, both with respect to population and the economy. As the coastal areas become more populated, the interior regions are expected to experience stronger growth.

4. FORECAST RESULTS

During the 1980s, Seminole system retail sales grew at rates exceeding 6% annually while Florida retail sales increased at rates exceeding 4% annually. During the 1990s, these growth rates have slowed to 4.8% and 3.3% respectively. Continuing this pattern, growth rates for the Seminole system are expected to remain higher than the Florida average during the forecast period, but both Florida and Seminole system are projected to grow at slower rates. The retail sales growth during the 1980s was influenced by the robust growth in population. Population growth in the 1990s has slowed, lowering the growth in retail sales. The tables on the following two pages summarize the historical and forecast growth rates of key variables for Seminole and Florida and Seminole's projections of Net Energy for Load and Net Firm Demands. Appendix I-A describes the forecast results in greater detail.

Historical and Forecast Growth Rates (%/Yr)

	1990-1999		2000-2009	
	Seminole	**Florida**	**Seminole**	**Florida**
Residential				
Consumers	2.6	2.5	2.4	1.7
Sales	4.6	3.4	3.7	2.0
Commercial/Industrial[2]				
Consumers	3.3	2.8	2.3	1.8
Sales	5.1	3.8	3.6	2.6
Retail Sales	4.8	3.3	3.6	2.2
Peak Demand				
Winter	3.7	5.4	3.8	2.1
Summer	4.7	3.6	3.6	2.2

SOURCE: Florida data is from "2000 Regional Load & Resource Plan," by Florida Reliability Coordinating Council.

[2] Florida data includes commercial sector only; Seminole's data includes the industrial sector also.

Seminole Electric Cooperative, Inc.

FORECAST SUMMARY

	(GWH) Net Energy for Load	Net Firm Demand (MW) Winter	(MW) Summer	(%) Annual Energy Growth	(%) Annual Peak Growth
1990	8,156	2,270	1,714	-	-
1991	8,552	2,009	1,693	4.9	-11.5
1992	8,807	2,245	1,860	3.0	11.7
1993	9,326	2,112	1,924	5.9	-5.9
1994	9,649	2,384	1,933	3.5	12.9
1995	10,624	2,666	2,217	10.1	11.8
1996	10,822	2,731	2,252	1.9	2.4
1997	10,998	2,912	2,320	1.6	6.6
1998	12,033	2,414	2,606	9.4	-10.5
1999	12,168	3,085	2,627	1.1	27.8
2000	12,755	3,237	2,651	4.8	4.9
2001	13,276	3,413	2,770	4.1	5.4
2002	13,766	3,542	2,868	3.7	3.8
2003	14,265	3,673	2,972	3.6	3.7
2004	14,814	3,805	3,074	3.8	3.6
2005	15,298	3,941	3,179	3.3	3.6
2006	15,850	4,083	3,288	3.6	3.6
2007	16,414	4,228	3,400	3.6	3.6
2008	17,038	4,376	3,514	3.8	3.5
2009	17,583	4,527	3,630	3.2	3.5
2010	18,189	4,681	3,749	3.4	3.4
2011	18,819	4,841	3,874	3.5	3.4
2012	19,516	5,005	4,001	3.7	3.4
2013	20,123	5,173	4,129	3.1	3.4
2014	20,796	5,343	4,261	3.3	3.3
2015	21,487	5,519	4,397	3.3	3.3
2016	22,268	5,699	4,538	3.6	3.3
2017	22,947	5,886	4,682	3.0	3.3
2018	23,703	6,077	4,828	3.3	3.2
2019	24,476	6,273	4,979	3.3	3.2
2020	25,334	6,475	5,134	3.5	3.2

Reporting actual data through December 1999

F. APPENDIX 1-A

APPENDIX TO LOAD FORECAST

Population

In projecting the growth rate for its Members' service areas, Seminole relies on county-level population growth projections from the University of Florida's Bureau of Economic and Business Research (BEBR), as well as its own historical experience. The projected population growth rates in the Members' service areas are only slightly higher than BEBR's medium forecast at county levels. The higher growth rates for the Members' service areas are consistent with the fact that these service areas are less populated and have grown faster than the average rates for counties in which they are located.

As has been the case in the past, population in the counties most representative of the Members' service areas is projected to grow faster than the overall Florida population. Those counties which have experienced high growth rates in the past are projected to continue to show strong growth in the future, but at lower rates. Among the counties projected to grow rapidly in the next decade are those in the Fort Myers and Naples area (Collier, Lee), central west coast (Citrus, Dixie, Gilchrist, and Hernando), central inland area (Clay, Lake, Marion and Sumter) and northern area (Hamilton, Lafayette, and Suwannee).

Seminole's Members supply electricity to significant portions of those areas that are generally less urbanized, but are located adjacent to metropolitan areas. It is therefore reasonable to expect higher consumer growth rates for Seminole's Members than for Florida as a whole to continue, as population overflows into Member territory. However, as the Members' service areas become more urbanized, this disparity in growth rates between Seminole and Florida is expected to decline.

The historical and forecasted population for Seminole's Members' service area is shown in

Table A-1-17. The service area population experienced an annual growth rate of 3.9% during the 1980s and dropped to an average of 2.3 % during the 1990s. In 1999, total population in the service area was estimated to be approximately 1.5 million. It is projected to grow to 2.2 million by 2020 at an annual growth rate of 1.9%, reflecting the lower growth rate experienced in the 1990s. Several factors contributed to the robust population growth of the 1980s. The 1981-1982 recession ended with a construction recovery coupled with pent-up demand. This placed Florida ahead of the rest of the nation in job creation. Florida also avoided the rolling recessions that most of the country experienced in the 1980s. This created a higher migration into the state. Finally, the demographic pool of new retirees and young workers willing to relocate was high during the 1980s. However, like the rest of the country, Florida was affected by the recession of the early 1990s. This slowed job creation and migration into Florida to levels that demographers consider to be more normal and sustainable. Finally, the demographic pool of new retirees and younger workers is much smaller in the 1990s. These trends experienced in the 1990s are projected to continue throughout the forecast period.

Consumers

Residential consumers have increased at an average annual rate of approximately 14,000 consumers per year or 2.6% since 1990. Residential consumers are projected to grow at an average annual rate of approximately 16,200 consumer per year or 2.3% between 2000 and 2010. The rate of growth decreases to 2.0% between 2010 and 2020. The average number of residential consumers in 2000 is estimated to be approximately 625,000. That number is projected to reach approximately 956,000 in 2020. The forecasts of residential consumers and energy sales are shown in table A-1-13.

The number of commercial consumers grew faster than residential consumers during the 1980s, due to factors such as rapid population growth, the strength of the Florida economy, and the

continued urbanization of the Members' service areas. During the period 1989 through 1992, commercial consumer growth rates dropped off sharply and fell below those of residential consumers. This was due primarily to the recession of the early 1990s. In 1992, a few Members had little or negative growth in commercial consumers. Since 1993, as the economy recovered from the recession, commercial consumer growth rates have surpassed those of the residential class.

Since 1993, commercial consumers in the service area have increased at an average annual rate of 3.1%. Commercial consumers are projected to grow from approximately 61,000 in 2000 to 77,000 in 2010, at an average annual rate of 2.3%. This will decrease to a 2.0% growth rate from 2010-2020. The forecasts of commercial consumers and energy sales are shown in table A-1-14.

Seminole Members' consumers are projected to continue growing faster than Florida utilities in the next decade: 2.4 % vs. 1.7 % for residential, 2.3% vs. 1.8% for commercial.

Usage per Consumer

Between 1990 and 1999, residential usage per consumer in Seminole Members' service areas increased at an average annual rate of 1.9 % as compared to the State average of 0.9%. The continued growth in average usage is consistent with the Residential Appliance Survey results, which shows steady increases in appliance saturations and larger homes during the last decade.

Homes and Electric Appliance Saturations (%)

	1986	1997
Single Family Homes	59	64
Homes>2000 ft^2	13	20
Homes<2000 ft^2	42	25
Primary Space-heating	55	81
Air-conditioning	82	95
Water Heater	89	92
Refrigerator	99	99
TV	98	99
Electric Range	70	78
Microwave Oven	53	93
Dishwasher	40	62
Clothes Dryer	58	84
Clothes Washer	81	92
Pool Pump	10	15

SOURCE: "Residential Survey," Seminole Electric Cooperative, Inc., 1986 and 1997

Between 1986 and 1997, the percentage of homes having 2000 square feet and larger increased to 20.2% from 12.5%. This is in contrast to decreases in the percentage of homes having1200 square feet or less, from 41.5 % to 25.2 %. In addition, appliance saturations steadily increased during the 10-year period. Saturations of space-conditioning appliances, which are weather sensitive, made substantial increases; primary electric heating made noticeable increases to 80.9 % from 55.4 %; electric air-conditioning increased to 94.8 % from 82.0 %; water heaters to 92.2 % from 88.6 %. Other electric appliances also made steady increases, including dishwashers, electric clothes washers, electric dryers, microwave ovens, and home computers.

Also noteworthy is the fact that electricity prices in nominal terms have declined over the last decade, which means real prices (prices adjusted for inflation) have declined even more. The decline

in real electricity prices is presumed to be an additional contributing factor for the increased energy usage per consumer.

As the result of continued increases in residential usage per consumer, the average residential usage in the Seminole system surpassed the average of Florida as a whole for the first time. The 1999 annual average residential usage of Seminole Members was 13,166 KWh, compared to the state's average of 13,099 KWh.

However, Florida's average residential usage is projected to be higher than Seminole's system average for the next few years. Florida's average residential usage is projected to increase at 0.3% annually through 2009, while the Seminole system average is expected to grow at 1.3% during the same time period. 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: 52,654 KWh versus 77,270 KWh in 1999. Seminole Members' commercial usage also includes industrial consumers, whereas the Florida average does not. Commercial/industrial usage per consumer is projected to grow from 54,220 KWh in 2000 to 60,497 KWh in 2009, at an average annual growth rate of 1.2 %. This compares with the Florida forecast, which projects usage per consumer to grow from 79,907 KWh in 2000 to 85,434 KWh in 2009, or an average annual growth rate of 0.8%.

Energy Sales and Purchases

Since 1990, residential energy sales have increased at an average annual rate of 4.6%. They are projected to grow at an annual rate of 3.5% between 2000 and 2020, reaching 16,684 GWH in 2020.

The forecast methodology is designed to incorporate any increases in energy savings due to additional load management programs of Seminole Members. At this time most of Seminole's Members do not plan to expand their load management programs. Some are evaluating the economic feasibility of maintaining their current programs into the future. As a result, Seminole projects that there will be no growth in the load management program over the forecast period.

Commercial energy sales have increased at an average annual rate of 5.1 % since 1990. They are projected to grow at an average annual rate of 3.4 %, reaching 6,480 GWH in 2020.

Combined with an annual growth rate of 2.1 % in other energy sales, total retail energy sales are projected to be 11,759 GWH in 2000 and 23,348 GWH in 2020, growing at an average annual rate of 3.5 %. Over the same period, Members' total purchases from Seminole are projected to grow from 12,503 GWH in 2000 to 24,840 GWH in 2020, increasing at an average annual rate of 3.5 %. The forecasts of sales and purchases are shown in table A-1-12.

Peak Demand

Seminole's winter peak demand is projected to increase to 6,348 MW in 2020, representing an annual growth rate of 3.5 % over the next 20 years. Summer peak demand is expected to increase at an annual rate of 3.4 %, from 2,599 MW in 2000 to 5,035 MW in 2020.

Seminole's system and most of its Members' systems are expected to continue to be winter peaking. For the Seminole system, winter peaks are expected to be approximately 25 % higher than summer peaks. Florida is generally winter peaking as well; however, the summer and winter peaks do not have as much diversity as the Seminole system.

The continued winter-peaking nature of the Seminole system is due primarily to increases in electric space-heating appliance saturations during the 1990s. Some Members in the northern part of the service area, where saturations of electric heating systems had been relatively low due to

higher saturations of gas heating appliances, have shown significant increases in saturations of electric heating systems in the 1990s.

The peak demand forecasts also reflect no additional load management. The annual load factor for the Seminole system is expected to remain relatively constant at a level of 44.4 % during the forecast period, which is consistent with the historical average of 44.4 % during the 1990-1999 period. The forecasts of peak demands are shown in table A-1-15.

Load Forecast Methodology

a. **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.

b. **Population**

Seminole obtains historical data on population and personal income by county for the 45 counties served by Seminole Member systems. To convert the county specific data to Member cooperative level, the counties are combined using the Member's share of each county's total consumers as of December 1999. Table A-1-1 shows the distribution of population among the counties in which the Member systems serve.

Population is the main explanatory variable in the residential and commercial/industrial consumer models. BEBR provides medium, low, and high population forecast scenarios for each county: The county medium, low and high forecasts are weighted and combined to yield a base

population forecast for each Member.

c. **Income**

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 nominal income to real values. Both variables are re-created using a 12-month moving-average method. This is done because the inherent cyclical fluctuations of both data cannot precisely explain the more stable electricity demand or consumption from one month to another. The increased statistical significance of the moving-average variables justifies the new method.

Forecasts of RPCI are taken from "The Florida Long-Term Economic Forecast 1999." These forecast growth rates for each of Seminole's Members are shown in Table A-1-2.

d. **Price of Electricity**

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 deflating the result by the CPI-U. This price is transformed using a 12-month moving-average method for the same reason as the income data explained before. Statistical significance improved markedly with the transformed price variable.

For the forecast, the real price of electricity is assumed to decline in the future at an average annual rate of .989 %. This rate is based on system-wide historical reductions in retail rates.

e. **Appliance Saturations and Housing Shares**

Appliance saturations and housing data are obtained from the Residential Appliance Survey conducted by Seminole and its Member systems since 1980. 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.

f. **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: Jacksonville, Gainesville, Tallahassee, Orlando, Tampa, and Ft. Myers. The data includes dry and wet bulb temperature, humidity, wind speed, cloud cover, and dew point. The data begins in 1970, except for Tallahassee (for which data starts in 1976) and Gainesville (for which data starts in 1984). To better reflect weather conditions in each Member's service territory, different weather stations are assigned to individual Member systems based on geographic proximity. Table A-1-3 shows the assigned weights of weather stations to individual Members.

Two types of weather variables are created: one for billing month and the other for calendar month. Calendar month weather is developed for each calendar month; billing month weather contains data from the middle of the previous month to the middle of the current month. A statistical

analysis showed that billing month weather more realistically measures the relationship between billing month sales and weather for the majority of Members. Talquin is unique, in that it lets consumers read their own meters and report the readings in their monthly bills. This unique arrangement makes the two previous calendar months a better explainer of Talquin's billing sales. Both billing and calendar month variables are used in the residential and commercial/industrial energy usage models as "best fit." In addition, heating and cooling degree hours ("HDH", "CDH") on Seminole's peak day are used in the peak demand model.

An extensive analysis of the relationship between hourly loads and hourly weather revealed that air-conditioning demand generally begins in the summer when the outdoor temperature reaches 72°F for residential load and 67°F for commercial load. Space-heating was found to have two different cut-off points in the winter: 61°F for residential and 56°F for commercial, in the service areas of the northern Members, and 63°F for residential and 58°F for commercial in the southern regions. Monthly cooling degree variables are computed by subtracting 24 times the cut-off temperature from the sum of the 24 hourly temperatures, while heating degree variables are created by reversing the order, i.e., subtracting the sum of the 24 hourly temperatures from 24 times the cut-off temperature. These weather variables have been proved effective in explaining weather-neutral temperature ranges for space-conditioning appliances and lagging weather effects within a period of time.

g. **Sales and Hourly Load Data**

Member systems have furnished monthly operating statistics 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.

h. **Integrated Forecasting System**

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 and Table A-1-4 presents definitions of explanatory variables used in the model.

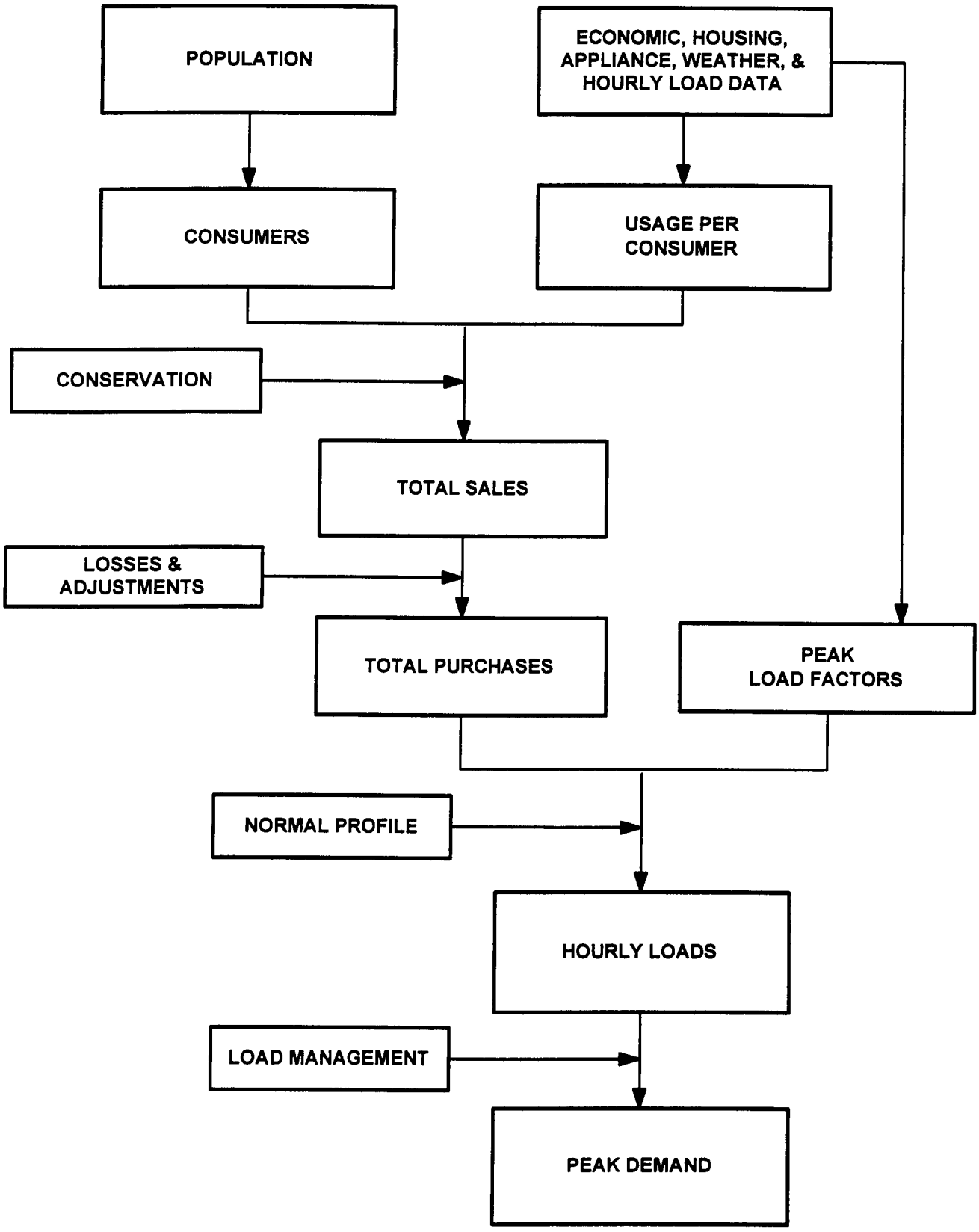
i. **High and Low Scenarios**

Two sets of scenarios are developed in addition to the base case: one for economic scenarios and the other for weather. 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 scenarios.

Severe and mild weather scenarios are developed for the energy usage and load factor models using data obtained by averaging the three highest or lowest weather data in each month during the past 20 years.

Appendix

Figure 1
INTEGRATED FORECASTING SYSTEM



Residential Consumer Model

For each Member, the historical relationship between annual residential consumers and Members' service area population is statistically determined using an ordinary least squares technique, with a first-order auto-regressive correction when necessary. Some Members require dummy variables as a way of explaining abrupt, external changes due to consumer re-classification, accounting changes, or territorial and consumer transfers.

The estimated equations are shown in Table A-1-7. For all ten Members, the high t-ratios and R^2-statistics indicate that service area population is a highly reliable predictor of residential consumers. The estimated equations are applied to the population forecasts to generate annual forecasts of residential consumers. Forecasts are benchmarked using the 1999 actual data. The annual consumer forecasts are converted to monthly forecasts, through linear interpolation between successive values. Then the monthly forecasts are adjusted to reflect seasonal fluctuations using average historical seasonal factors.

Appliance Model

The Appliance model combines the results of the Residential Consumer Model with data from the Residential Appliance Survey to yield forecasts of space-heating and air-conditioning stock variables, which are used in the Residential Energy Usage Model and the Peak Demand Load Factor Model.

First, annual forecasts of the shares of each home type are produced: single-family homes, mobile homes, and multi-family homes. Shares in the final year of the forecast (target shares) are derived by developing an average of the housing type mix for existing consumers and the projected housing type mix for the additional consumers expected to be added to the system during the forecast period. The housing type mix for new consumers is assumed to be the same as that of homes less than 5 years old, based on the two most recent Residential Appliance Surveys. The shares by type for the

forecast period are calculated with linear regression of saturations against time between the historical housing type shares and the target shares for the forecast period.

Next, annual forecasts of space-conditioning saturations are created. Air-conditioning and space-heating saturations are forecast by fitting a logistic curve to the historical saturations and a target saturation for the forecast period. The target is derived by combining the relevant saturations among existing and future consumers. Room air-conditioning saturations are fit with a quadratic curve because they have been declining, reversing the trend of the 1970s. Subsequently, the forecast of room air-conditioning saturations are converted to central air-conditioning equivalents and combined with the central air-conditioning saturations to produce a composite central air-conditioning saturation. 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.

Commercial/Industrial Consumer Model

Commercial/industrial consumer forecasts follow basically the same method as explained in the Residential Consumer Model Section for the statistical model specifications. Again, dummy variables are used for abrupt and external historical changes in consumers and adjustments to model specification or forecast results, the conversion of annual consumers to monthly, etc.

Whenever Members expect new large commercial consumers in the near future, the information is implemented in the forecasts as explained in detail in the PRS report. The estimated equations are shown in Table A-I-6.

Other Class Consumer Model

Other classes generally include irrigation, street and highway lighting, public buildings, and sales for resale, which represent less than 2 % of Seminole's Members' total energy sales. Some Member systems include some of these classes in the commercial/industrial sector.

Annual consumer forecasts for Central Florida, Clay, Lee, Sumter and Talquin were projected

using regression analysis against population. For other Members who have experienced slow but stable historical

consumer growth patterns, a trending technique is used. The equations for the other classes' consumer model are shown in Table A-1-9.

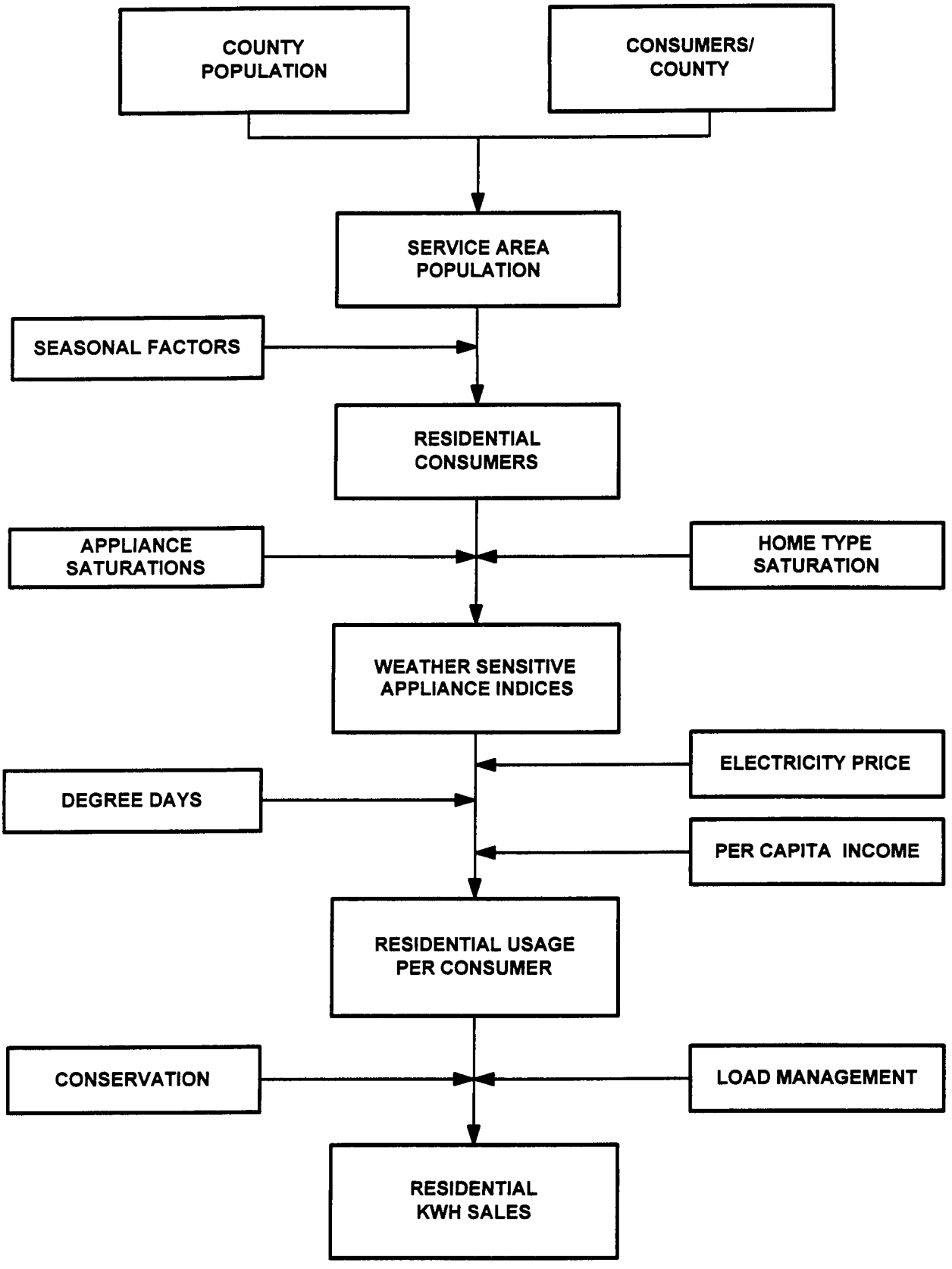
Residential Energy Usage Model

The overall structure of the Residential Energy Usage Model, a combination of econometric and end-use methods, is shown in Figure 2. For each Member system, monthly residential usage is modeled as a function of explanatory variables using ordinary least squares. The explanatory variables include heating and cooling degree variables weighted with space-conditioning appliances, real price of electricity and real per capita income. As previously explained, billing cycle weather is used for most of Members. To explain varying relationships between consumption and weather during the primary heating and cooling months, individual coefficients for those months are also estimated. Table A-I-7 shows the estimated equations and statistical results.

The 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.

Appendix

Figure 2
RESIDENTIAL ENERGY USAGE MODEL



Commercial/Industrial Energy Usage Model

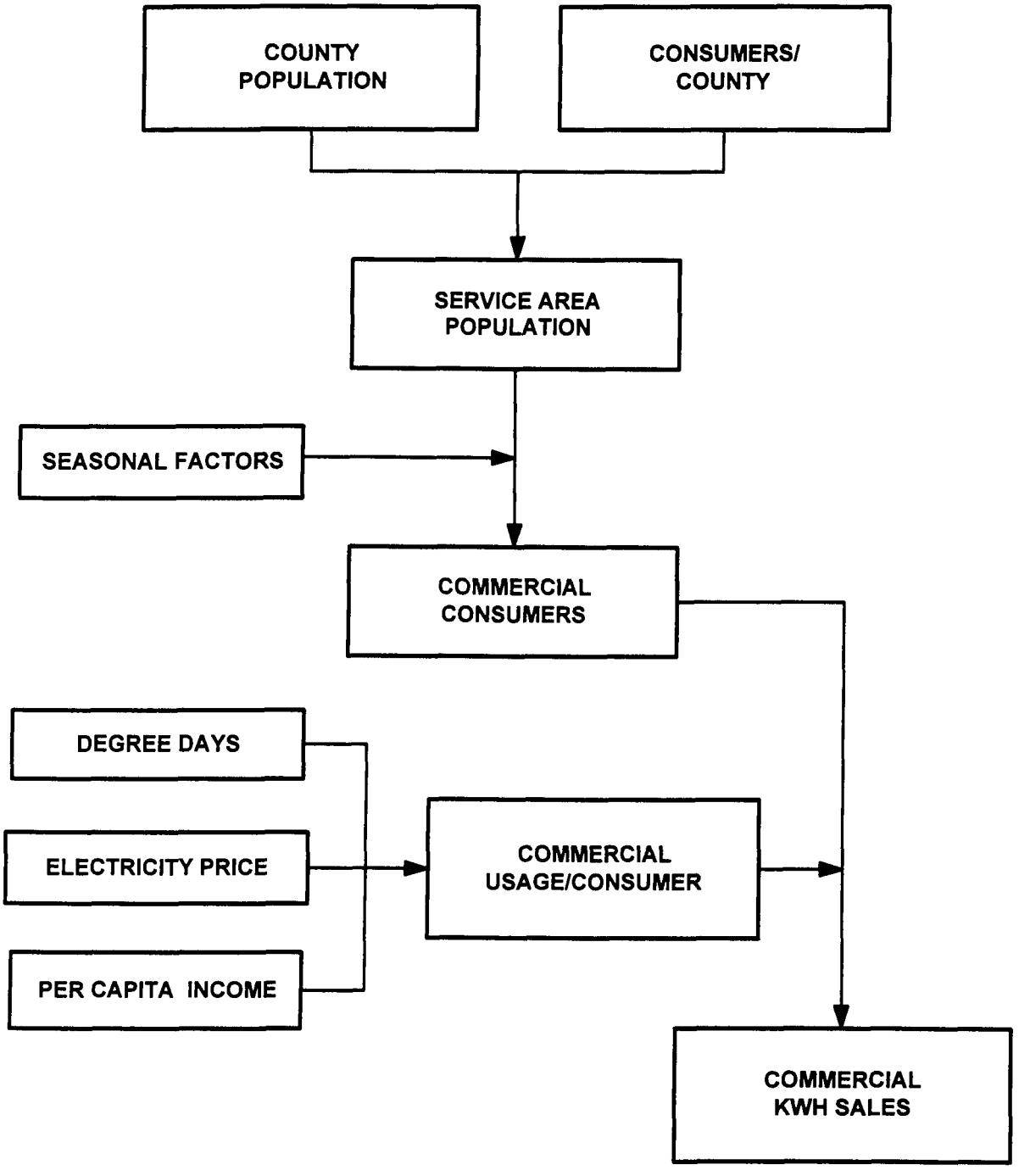
Figure 3 shows the structure of the Commercial/Industrial Energy Usage Model. For each Member system, monthly commercial/industrial usage per consumer is modeled as a function of several explanatory variables, which include monthly heating and cooling degree variables, real price of electricity, real per capita income, and dummy variables for some Member systems to explain abrupt or external changes. Lagged weather variables which reflect the billing cycles are also used in the equations as explained in the Residential Energy Usage Model Section. The models for Glades Electric and Peace River 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. Table A-1-8 shows the equations and statistical results.

Next, the monthly energy usage per consumer forecasts 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.

Appendix

Figure 3
COMMERCIAL ENERGY USAGE MODEL



Other Class Energy Usage Model

Energy usage of other classes for Peace River and Talquin are forecast through a trending method. The remaining Members' historical patterns of energy usage are quite stable and their usage are held constant for the forecast period. Table A-I-9 shows the estimated equations and statistical results.

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 unpredictably.

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. In most cases, weather variable coefficients unique to each month are estimated because an analysis indicated that system responses differ for these months. For several Members, dummy variables are used to capture the effect of non-weekday peak demands, which tend to be lower.

Two seasonal equations for each Member system are developed: one for the winter months (November through March) and the other for the summer months (April through October). The monthly load factor forecasts were combined with the purchases forecasts to produce projections of monthly peaks by Member. As explained in the Commercial/Industrial Energy Usage Model Section, new large commercial consumers expected in the near future have been additionally implemented also

in the peak demand projections.

Hourly demand forecasts are created through a calibration procedure which transforms the normal profiles[1] in such a way that maximum peak, monthly minimum, and monthly energy match up the monthly forecasts generated from the forecasting process explained above. This calibration procedure produces hourly profile forecasts by month and by Member, an aggregation of which then constitutes hourly profiles for Seminole's system.

The structure of the model is shown in Figure 4. The models and their statistical properties are presented in Tables A-I-1 and A-I-11. Tables A-1-12 through A-1-17 present historical data and the forecast results in greater detail.

[1] The normal hourly profiles are selected from the historical hourly load data. The criteria used in the selection include weather (monthly degree days, degree hours on peak day), peak demand hour, diversity factors, load factors, and the actual load shapes, etc. The normal months are selected based on the Seminole system level data. Because of weather variations across the Seminole system, however, in some cases individual Members may demonstrate unusual and diverse profiles. Then adjustments are made for the unusual diversity by estimating normal profiles under normal weather.

Appendix

Figure 4
PEAK DEMAND LOAD FACTOR MODEL

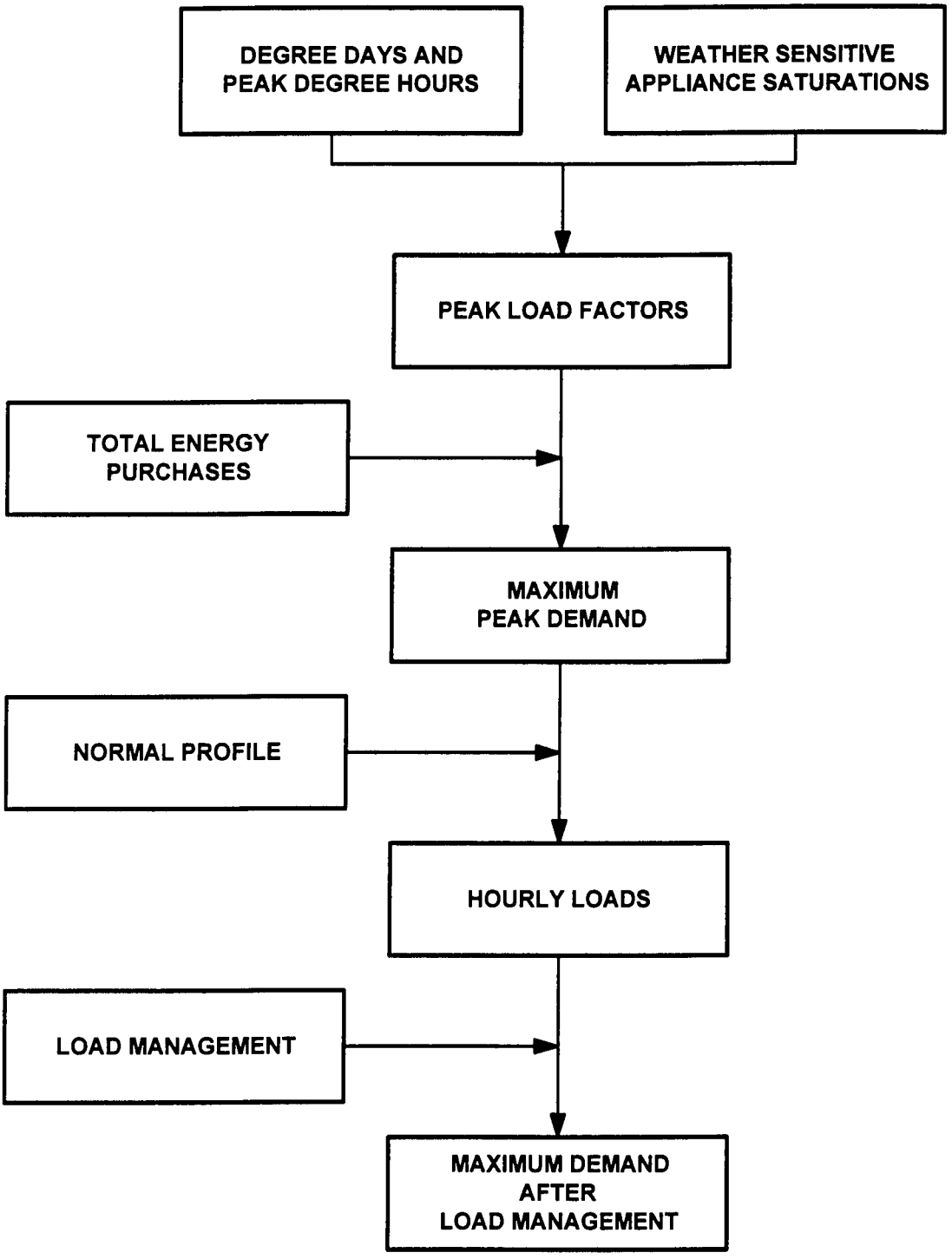


Table A-1-1

COUNTY DISTRIBUTION BY MEMBER SYSTEM (As of 12/31/99)

Member	County	Share (%)	
CENTRAL FLORIDA	Alachua	0.8	
	Dixie	100.0	
	Gilchrist	100.0	
	Levy	100.0	
CLAY	Alachua	17.6	
	Bradford	46.6	
	Clay	96.6	
	Columbia	56.0	
	Duval	0.2	
	Lake	2.5	
	Levy	4.3	
	Marion	13.5	
	Putnam	60.3	
	Union	50.0	
	Volusia	0.8	
GLADES	Glades	47.5	
	Hendry		12.4
	Highlands	13.7	
	Okeechobee	8.8	
LEE COUNTY	Charlotte	0.8	
	Collier	24.1	
	Hendry		3.4
	Lee	57.0	
PEACE RIVER	DeSoto		8.6
	Hardee	63.3	
	Highlands	0.6	
	Hillsborough	0.2	
	Indian River	0.3	
	Manatee	7.4	
	Osceola	1.3	
	Polk	2.4	
SUMTER	Citrus	25.2	
	Hernando	0.2	
	Lake	39.5	
	Levy	6.8	
	Marion	30.3	

	Sumter	81.3
SUWANNEE VALLEY	Columbia	6.1
	Hamilton	46.6
	Lafayette	79.3
	Suwannee	86.9
TALQUIN	Gadsden	61.0
	Leon	23.6
	Liberty	79.1
	Wakulla	68.8
TRI-COUNTY	Dixie	6.6
	Jefferson	55.3
	Lafayette	1.7
	Madison	74.4
	Taylor	67.5
WITHLACOOCHEE	Citrus	36.1
	Hernando	100.0
	Pasco	46.5
	Polk	0.2
	Sumter	4.8

Table A-1-2

PROJECTED REAL PER CAPITA INCOME
GROWTH RATES (%)

Member	Annual Growth Rate *
CENTRAL FLORIDA	0.55
CLAY	0.97
GLADES	1.17
LEE	1.07
PEACE RIVER	1.2
SUMTER	0.73
SUWANNEE VALLEY	0.44
TALQUIN	1.28
TRI-COUNTY	0.68
WITHLACOOCHEE	0.58

* Based on the period 1987-1996.

Table A-1-3

WEATHER STATION ASSIGNMENTS

	Weather Station Weights (%)				
	Ft. Myers	Jacksonville	Orlando	Tallahassee	Tampa
CENTRAL FLORIDA		50.0			50.0
CLAY		66.7	33.3		
GLADES	75.0				25.0
LEE COUNTY	100.0				
PEACE RIVER	20.0		40.0		40.0
SUMTER			66.7		33.3
SUWANNEE VALLEY		66.7		33.3	
TALQUIN				100.0	
TRI-COUNTY				100.0	
WITHLACOOCHEE			25.0		75.0

Table A-1-4

VARIABLE DEFINITIONS

Consumer Models

POP	Member service area population
D79	Dummy variable for Glades' commercial consumer reclassification
D86	Dummy variable for residential consumer reclassifications for Glades and Suwannee Valley, for commercial consumer reclassification for Clay, and for residential billing change for Peace River
D87	Dummy variable for Peace River and Suwannee Valley commercial consumers reclassified due to commercial accounting changes.
D88	Dummy variable for residential consumer billing change for Sumter and commercial consumer reclassification for Lee County
D89	Dummy variable for commercial billing change for Sumter
D90	Dummy variable for Suwannee Valley's residential consumer accounting change
D92	Dummy variable for residential and commercial consumer reclassification for Clay

Usage Models

RESIDENTIAL

CDDZA	Monthly cooling degree days weighted with air conditioning stock index (also used lagged by one and two months as L1CDDZA and L2CDDZA)
SUMMER	CDDZA in August, September and October for Talquin; in June, July and August for Suwannee Valley and Tri-County; and in July, August and September for Central, Glades, Lee County and Withlacoochee River
HDDZH	Monthly heating degree days weighted with space heating stock index (also used lagged by one and two months as L1HDDZH AND L2CDDZA)
WINTER	HDDZH in February and March for Talquin, and for December and January for all other member systems
INCPR	Real per capita income ($) / real price of electricity (cents/KWH)
DSEASON	Dummy variable for Lee for increased usage by seasonal consumers

COMMERCIAL/INDUSTRIAL

CDD	Monthly cooling degree days (also used lagged one and two months as L1CDD and L2CDD
SUMMER	CDD in July and August for Peace River; in July, August and September for Sumter; in June and July for Suwannee Valley; and in August and September for Tri-County
HDD	Monthly heating degree days (also used lagged one and two months as L1HDD and L2HDD)
WINTER	HDD in December for Sumter, in January for Suwannee Valley and Withlacoochee River, and in February for Talquin.
INCPR	Real per capita income ($) / real price of electricity (cents/KWH)
PRECIP	Monthly rainfall in Member service area, lagged one month
D869	Dummy variable for Central's consumer reclassification (9/85)
D859	Dummy variable for Clay's consumer reclassification (8/85)
D921	Dummy variable for Clay's consumer reclassification (1/92)
D8711	Dummy variable for Lee's consumer reclassification (10/87)
D91	Dummy variable for Withlacoochee River's consumer reclassification
D856	Dummy variable for Suwannee Valley's consumer reclassification (5/85)

OTHER CLASSES

TRND	Time variable equal to 1 in the first year of the estimation period
DUM	Dummy variable for Talquin's consumer reclassification in 1987

Load Factor Models:

ACSAT	Air conditioning appliance saturation
SPH	Space heating appliance saturation
PRECIP	Monthly rainfall in Member service area
WKEND	Dummy variable for weekend and holiday peak demand
CDD	Monthly cooling degree days
JANHDD	Heating degree days in January
FEBHDD	Heating degree days in February
NOVHDD	Heating degree days in November
DECHDD	Heating degree days in December
MAYCDD	Cooling degree days in May
JUNCDD	Cooling degree days in June
JULCDD	Cooling degree days in July
AUGCDD	Cooling degree days in August
SEPCDD	Cooling degree days in September
OCTCDD	Cooling degree days in October
JANPKDH	Heating degree hours at the time of maximum demand in January
FEBPKDH	Heating degree hours at the time of maximum demand in February
MARPKDH	Heating degree hours at the time of maximum demand in March
NOVPKDH	Heating degree hours at the time of maximum demand in November
DECPKDH	Heating degree hours at the time of maximum demand in December
APRPKDH	Cooling degree hours at the time of maximum demand in April
MAYPKDH	Cooling degree hours at the time of maximum demand in May
JUNPKDH	Cooling degree hours at the time of maximum demand in June
JULPKDH	Cooling degree hours at the time of maximum demand in July
AUGPKDH	Cooling degree hours at the time of maximum demand in August
SEPPKDH	Cooling degree hours at the time of maximum demand in September
OCTPKDH	Cooling degree hours at the time of maximum demand in October

Table A-1-5

RESIDENTIAL CONSUMER MODEL

Coefficients and Statistics

Member	Estimation Period	Intercept	Population	Auto-regressive Term	Dummy Variable	R^2	Durbin-Watson
CENTRAL FLORIDA	1977-1999	-5143.04 (-21.20)	0.491 (95.21)	-0.466 (-2.35)	--	0.997	--
CLAY	1977-1999	-32146.00 (-21.09)	0.491 (91.99)	-0.324 (-1.49)	2153.83 (-4.49)	0.999	--
GLADES	1977-1999	-3793.72 (-8.48)	0.538 (29.16)	-0.416 (-1.99)	1011.54 (6.91)	0.991	--
LEE	1977-1999	-8197.75 (-6.27)	0.44 (84.77)	--	--	0.997	0.808
PEACE RIVER	1977-1999	-7622.53 (-7.23)	0.51 (22.94)	-0.61 (-3.42)	-845.33 (3.22)	0.991	--
SUMTER	1977-1999	-23051.00 (-12.52)	0.508 (48.67)	-0.81 (-6.16)	-2932.68 (-3.83)	0.995	--
SUWANNEE VALLEY	1977-1999	-3505.52 (-5.20)	0.47 (29.14)	-0.505 (-2.55)	-963.74 (-5.31)	0.995	--
TALQUIN	1977-1999	-16535.00 (-11.75)	0.572 (34.59)	-0.66 (-3.76)	--	0.984	--
TRI-COUNTY	1977-1999	-7326.33 (-5.52)	0.56 (13.29)	-0.883 (-8.45)	--	0.893	--
WITHLACOOCHEE	1977-1999	-20782.00 (-28.05)	0.492 (164.53)	0.607 (-3.41)	--	0.999	--

Notes: (1) t-values shown in parentheses

(2) Dummy Variables:

Clay	D92=1 1977-1991 (consumer reclassification)
Glades	D86=1 1977-1985 (consumer reclassification)
Peace River	D86=1 1977-1985 (change to year-round billing)
Sumter	D88=1 1979-1987 (change to year-round billing)
Suwannee	D90=1 1977-1989 (accounting change)

Table A-1-6

COMMERCIAL CONSUMER MODEL
Coefficients and Statistics

Member	Estimation Period	Intercept	Population	Auto-regressive Term	Dummy Variable	R^2	Durbin-Watson
CENTRAL FLORIDA	1977-1999	-636.54 (-20.71)	0.039 (60.12)	-0.468 (-2.37)	--	0.994	--
CLAY	1977-1999	-2798.77 (-4.84)	0.046 (22.81)	-0.529 (-2.72)	-2385.55 (-12.80)	0.994	--
GLADES	1977-1999	495.57 (2.91)	0.109 (12.97)	-0.736 (-4.74)	-539.576 (-4.36)	0.934	--
LEE	1981-1999	3306.87 (4.07)	0.028 (9.64)	-0.509 (-2.583)	-1602.12 (-4.77)	0.978	--
PEACE RIVER	1977-1999	-1888.66 (-12.66)	0.108 (28.51)	-0.364 (-1.74)	--	0.974	--
SUMTER	1977-1999	132.075 (0.82)	0.037 (34.39)	--	349.96 (2.65)	0.982	0.961
SUWANNEE VALLEY	1977-1999	-1171.05 (-9.03)	0.049 (14.48)	-0.62 (-3.44)	--	0.912	--
TALQUIN	1977-1999	-2125.17 (-7.28)	0.044 (14.40)	-0.564 (-2.90)	--	0.916	--
TRI-COUNTY	1977-1999	-1099.14 (-12.061)	0.068 (24.23)	-0.475 (-2.41)	--	0.965	--
WITHLACOOCHEE	1977-1999	-4341.9 (-15.71)	0.051 (46.14)	-0.574 (-3.13)	--	0.9902	--

Notes: (1) t-values shown in parentheses
(2) Dummy Variables:

Clay	D86=1 1977-1985 (consumer reclassification)
Lee	D92=1 1977-1991 (consumer reclassification)
Glades	D79=1 1977-1978 (consumer reclassification)
Lee	D88=1 1981-1987 (consumer reclassification)
Peace River	D87=1 1985-1986 (accounting change)
Sumter	D89=1 1987-1989 (billing change)
Suwannee	D87=1 1987-1988 (accounting change)

Table A-1-7

RESIDENTIAL USAGE MODEL
Coefficients and Statistics

	Intercept	HDDZH	LHDDZH	Winter	CDDZA	LCDDZA	Summer	IncPr	DSeason	R^2	Durbin-Watson
CENTRAL FLORIDA	173.95	2.204	0.866	3.685	1.982	0.12	2.277	0.069	--	0.94	1.44
	(9.46)	(9.53)	(2.72)	(20.99)	(18.56)	(2.0)	(26.80)	(22.64)			
CLAY	495.64	1.751	--	4.41	1.331	--	1.71	0.03	--	0.82	1.56
	(14.77)	(3.84)		(11.88)	(10.80)		(22.15)	(7.27)			
GLADES	217.02	6.76	1.81	5.22	0.77	0.35	1.08	0.21	--	0.84	1.58
	(6.03)	(7.28)	(3.15)	(8.71)	(8.18)	(3.98)	(12.24)	(11.98)			
LEE	430.91	2.21	0.99	--	1.6	--	1.94	0.075	61.57	0.92	1.69
	(22.15)	(12.23)	(3.01)		(22.84)		(38.19)	(16.28)	(4.7)		
PEACE RIVER	186.293	4.93	1.05	6.43	1.2	0.088	--	0.22	--	0.81	1.69
	(5.32)	(6.97)	(2.034)	(11.145)	(13.40)	(0.99)		(12.68)			
SUMTER	381.73	3.96	--	6.22	1.94	--	--	0.06	--	0.67	1.77
	(9.80)	(4.84)		(8.99)	(14.60)			(8.20)			
SUWANNEE	308.23	0.99	0.87	2.49	3.28	0.2	3.53	0.08	--	0.93	1.7
	(10.75)	(4.14)	(3.04)	(15.19)	(16.68)	(2.27)	(29.07)	(13.72)			
TALQUIN	538.07	3.64	--	3.16	1.47	--	1.72	0.05	--	0.9	1.83
	(22.51)	(11.63)		(19.56)	(16.41)		(32.40)	(11.31)			
TRI-COUNTY	372.54	1.32	0.41	2.02	2.49	0.35	2.73	0.04	--	0.95	2.25
	(27.51)	(8.80)	(2.39)	(20.04)	(20.23)	(6.15)	(34.40)	(12.81)			
WITHLACOOCHEE	253.436	2.77	1.85	4.15	1.82	--	2.23	0.08	--	0.9	1.95
	(8.79)	(11.42)	(5.15)	(20.26)	(17.89)		(32.78)	(15.41)			

Notes:
(1) t-values in parentheses
(2) Estimation period = 1/85-12/99
(3) Central, Lee, Suwannee, Tri-County and Withlacoochee use billing month weather with calendar month lag. Talquin uses calendar month weather lagged once for CDD/HDD and twice for LCDD/LHDD. All other members use calendar month weather with calendar month lag.
(4) Refer to Table A-III-6 for definitions of Summer, Winter, DSeason, and IncPr variables

Table A-1-8

COMMERCIAL USAGE MODEL
Coefficients and Statistics

	Intercept	HDD	LHDD	Winter	CDD	LCDD	Summer	IncPr	Precip	Dummy Variable	R^2	Durbin-Watson
CENTRAL FLORIDA	615.57	0.53	-	-	2.40	0.47	-	0.29	-	389.52	0.86	1.92
	(6.96)	(2.02)	-	-	(10.02)	(2.98)	-	(23.38)	-	(4.54)		
CLAY	2946.47	-	-	-	2.59	-	-	0.05	-	1163.11	0.73	2.00
	(12.39)	-	-	-	(13.48)	-	-	(2.61)	-	(11.35)		
GLADES	61.07	0.73	-	-	-	-	-	1.26	-37.87	-	0.76	0.72
	(0.53)	(1.08)	-	-	-	-	-	(22.29)	(-5.21)	-		
LEE	2180.05	-	-	-	1.85	-	-	0.55	-	826.75	0.65	2.24
	(12.55)	-	-	-	(7.89)	-	-	(14.72)	-	(7.42)		
PEACE RIVER	747.39	1.28	-	-	1.07	-	0.88	0.41	-42.12	-	0.61	0.90
	(10.11)	(1.89)	-	-	(7.05)	-	(5.58)	(13.57)	(-6.33)	-		
SUMTER	348.71	-	-	10.03	1.20	-	1.26	0.43	-	-	0.82	1.54
	(3.66)	-	-	(3.46)	(7.03)	-	(10.56)	(25.21)	-	-		
SUWANNEE	3160.82	-	-	1.70	3.74	0.61	4.88	-	-	-	0.60	0.53
	(63.58)	-	-	(4.13)	(5.77)	(1.72)	(9.42)	-	-	-		
TALQUIN	3594.78	-	-	0.73	3.07	-	-	0.22	-	-	0.88	1.17
	(53.81)	-	-	(2.53)	(28.15)	-	-	(18.84)	-	-		
TRI-COUNTY	1681.42	-	-	-	2.45	0.47	2.83	0.21	-	-	0.87	2.06
	(21.29)	-	-	-	(10.50)	(3.40)	(11.89)	(13.12)	-	-		
WITHLACOOCHEE	3075.05	-	-	1.70	2.94	0.27	-	0.17	-	-699.10	0.91	1.37
	(27.98)	-	-	(3.98)	(12.55)	(1.66)	-	(10.57)	-	(-13.73)		

NOTES: (1)t-values in parentheses
(2)Estimation period = 1/85-12/99.
(3)Central, Lee , Suwannee, Tri-County and Withlacoochee use billing month weather with calendar month lag. Talquin uses calendar month weather lagged once for CDD/HDD and twice for LCDD/LHDD. All other members use calendar month weather with calendar month lag.
(4)Refer to Table A-III-6 for definitions of Summer, Winter, and IncPr variables

Table A-1-9
OTHER CLASSES CONSUMER MODEL
Coefficients and Statistics

Member	Estimation Period	Intercept	Population	Auto-regressiv Term	Dummy Variable	R^2	Durbin Watson
CENTRAL FLORIDA	1977-1999	-30.78 (-7.26)	-0.001 (20.78)	-0.57 (-3.03)	-4.05 (-1.98)	0.97	–
CLAY	1978-1999	-5.14 (-0.68)	0.0001 (6.17)	-0.77 (-5.29)	–	0.65	–
LEE	1974-1999	358.94 (7.94)	0.001 (5.53)	-0.82 (-7.03)	–	0.56	–
SUMTER	1978-1999	-88.89 (-1.32)	0.008 (19.52)	-0.46 (-2.304)	–	0.95	–
TALQUIN	1974-1999	102.586 (4.65)	0.006 (23.52)	-0.543 (-3.089)	–	0.95	–

NOTES: t-values shown in parentheses
(2) Dummy Variable for Central = 1 1977-1980 (consumer reclassification)
(3) Forecasts for the other distribution members are based on periodic increases or are held constant

OTHER CLASSES ENERGY USAGE MODEL
Coefficients and Statistics

Member	Estimation Period	Intercept	Trend	Auto-regressiv Term	Dummy Variable	R^2	Durbin Watson
PEACE RIVER	1977-1999	1000965 (18.689)	10246 (2.292)	-0.56 (-2.959)	-77755 (-0.883)	0.21	–
TALQUIN	1978-1999	5944.05 (2.786)	1181.014 (8.29)	-0.43 (-1.97)	23542/-7587.82 (15.052)/(-5.206)	0.95	–

Notes:
(1) t-values shown in parentheses
(2) Dummy Variable for Peace River = 1 1997
(3) Dummy Variable for Talquin = 1 1978-1986 (consumer reclassification)
(4) Dummy Variable for Talquin = 1 1997
(5) Forecasts for the other distribution members are held constant

Table A-1-10

LOAD FACTOR MODEL - WINTER SEASON (JANUARY-MARCH & NOVEMBER-DECEMBER)
Coefficients and Statistics

	Central	Clay	Glades	Lee	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River
INTERCEPT	0.84	0.78	0.71	0.82	0.78	0.69	0.85	0.77	0.90	0.67
	(61.68)	(46.99)	(13.09)	(52.79)	(19.84)	(32.17)	(57.68)	(40.55)	(55.79)	(67.98)
SPH	-0.29	-0.012	0.13	-	0.02	-0.03	-0.27	-0.20	-0.39	-
	(-13.52)	(-0.59)	(1.95)	-	(0.44)	(-1.48)	(-13.47)	(-7.96)	(-16.06)	-
JANHDD	0.0005	0.0005	0.0002	-0.0004	0.0003	0.0008	0.0003	0.0002	0.0001	0.001
	(6.22)	(7.25)	(0.79)	(-0.97)	(2.41)	(6.43)	(5.18)	(4.27)	(2.36)	(5.17)
FEBHDD	0.0004	0.0004	-	-	0.0002	0.0006	0.0004	0.0003	0.0002	0.001
	(3.97)	(4.02)	-	-	(1.03)	(3.58)	(4.97)	(3.50)	(2.37)	(3.78)
NOVHDD	-	-	-	-	-	-	-	0.000005	-	-
	-	-	-	-	-	-	-	0.05	-	-
DECHDD	0.0006	0.0005	0.0003	0.0001	0.0004	0.008	0.0004	0.0005	0.0003	0.0008
	(8.75)	(7.10)	(1.27)	(0.56)	(3.16)	(7.26)	(7.30)	(7.85)	(4.59)	(6.03)
JANPKDH	-0.003	-0.004	-0.004	-0.004	-0.005	-0.004	-0.002	-0.002	-0.0001	-0.004
	(-16.05)	(-19.65)	(-10.94)	(-9.51)	(17.21)	(-15.66)	(-13.77)	(-10.81)	(2.36)	(-12.98)
FEBPKDH	-0.003	-0.003	-0.004	-0.005	-0.004	-0.003	-0.002	-0.002	-0.002	-0.004
	(-16.16)	(-18.58)	(-16.10)	(-17.04)	(-17.11)	(-15.41)	(-14.98)	(-10.94)	(-10.11)	(-15.89)
MARPKDH	-0.002	-0.003	-0.004	-0.004	-0.004	-0.003	-0.002	-0.002	-0.0016	-0.004
	(-17.80)	(-22.82)	(-13.18)	(-13.74)	(-19.85)	(-17.52)	(-15.82)	(-14.45)	(-10.99)	(-15.72)
NOVPKDH	-0.002	-0.003	-0.004	-0.005	-0.004	-0.002	-0.002	-0.002	-0.001	-0.003
	(-15.08)	(-19.65)	(-8.75)	(-6.71)	(-15.14)	(-13.19)	(-14.22)	(-7.33)	(-9.81)	(11.27)
DECPKDH	-0.003	-0.003	-0.004	-0.004	-0.004	-0.003	-0.002	-0.003	-0.002	-0.004
	(-17.40)	(-19.24)	(-10.24)	(-10.09)	(-15.74)	(-15.94)	(-14.59)	(-12.60)	(-10.03)	(-15.16)
WKEND	0.007	0.02	0.016	0.0002	0.01	0.015	0.005	0.031	0.024	0.17
	(2.11)	(6.03)	(1.80)	(0.03)	(2.50)	(3.06)	(1.48)	(5.43)	(4.07)	(2.99)
R^2	0.81	0.81	0.71	0.72	0.82	0.76	0.76	0.68	0.71	0.75
D.W.	1.97	1.83	1.43	1.60	1.37	1.50	2.02	1.38	1.78	1.62

Notes: (1) t-values in parentheses
(2) Estimation period is 1/85-12/99

Table A-1-11

LOAD FACTOR MODEL - SUMMER SEASON (APRIL-OCTOBER)
Coefficients and Statistics

	Central	Clay	Glades	Lee	Peace River	Sumter	Suwannee Valley	Talquin	Tri-County	Withlacoochee River
Intercept	0.76	0.708	0.74	0.68	0.653	0.8	0.67	0.69	0.71	0.682
	(55.11)	(44.79)	(26.89)	(84.92)	(46.64)	(41.69)	(125.2)	(55.27)	(69.89)	(23.32)
AC	-0.09	-0.04	0.01	-	0.0723	-0.099	-	-0.43	-0.021	0.025
	(-6.11)	(-2.16)	(0.32)	-	(4.67)	(-4.9)	-	(-2.8)	(-1.3)	(0.82)
PRECIP	-0.002	-0.001	-0.002	-	-	-0.004	-0.0016	0.0005	-	-0.001
	(-3.81)	(-3.84)	(-2.31)	-	-	(-4.77)	(-3.27)	(1.65)	-	(-2.35)
MAYCDD	0.0002	0.005	0.0002	0.0002	0.0004	0.0006	-	-	0.0002	0.0005
	(1.75)	(5.25)	(1.45)	(3.05)	(4.16)	(4.24)	-	-	(2.08)	(4.56
JUNCDD	-	0.0007	-	0.0007	0.0005	-	0.0004	0.0007	0.0005	-
	-	(7.46)	-	(5.4)	(5.15)	-	(4.97)	(9.59)	(5.86)	-
JULCDD	0.0002	.0004	-	0.0005	0.0002	0.0003	0.0003	0.0004	0.0004	0.0003
	(1.62)	(3.59)	-	(4.15)	(1.82)	(2.11)	(2.95)	(3.54)	(4.22)	(2.26
AUGCDD	-	0.0001	0.0004	0.0004	-	-	0.0001	0.0004	0.0002	0.0003
	-	(1.45)	(2.27)	(2.92)	-	-	(1.27)	(4.73)	(2.8)	(2.07)
SEPCDD	0.0003	0.008	0.0006	0.0005	0.0004	0.0004	0.0006	0.0007	0.0005	0.0003
	(2.22)	(6.11)	(2.53)	(2.65)	(3.44)	(2.34)	(4.24)	(5.24)	(4.32)	(2.037
OCTCDD	0.0004	0.0003	0.0003	0.0006	0.00009	0.0003	-	-	-	0.0006
	(2.17)	(1.76)	(1.78)	(6.02)	(0.82)	(2.57)	-	-	-	(4.75
APRPKDH	-0.0008	-0.009	-0.0007	-0.0003	-0.0007	-0.001	-0.00089	-0.0006	-0.0004	-0.0008
	(-9.75)	(-13.98)	(-5.53)	(-4.71)	(-9.77)	(-12.19)	(-13.08)	(-10.47)	(-6.92)	(-8.38)
MAYPKDH	-0.0008	-0.001	-0.0008	-0.0005	-0.0007	-0.001	-0.0007	-0.0005	-0.0005	-0.001
	(-7.52.)	(-12.28)	(-4.04)	(-6.13)	(-7.02)	(-9.56)	(-15.009)	(-14.4)	(-7.54)	(-0.001)
JUNPKDH	-0.00035	-0.001	-0.0002	-0.0009	-0.0009	-0.0005	-0.0007	-0.001	-0.0007	-0.0004
	(-7.46)	(-10.28)	(-2.67)	(-6.04)	(-6.91)	(-8.77)	(-7.88)	(-13.32)	(-8.6)	(-7.81)
JULPKDH	-0.0005	-0.009	-0.0002	-0.0008	-0.0005	-0.0008	-0.0005	-0.0007	-0.0006	-0.0008
	(-3.02)	(-4.67)	(-2.85)	(-4.93)	(-3.01)	(-3.83)	(-3.78)	(-5.42)	(-5.66)	(-4.14)
AUGPKDH	-0.0002	-0.0004	-0.0007	-0.0006	-0.0001	-0.0003	-0.0004	-0.0006	-0.0004	-0.0008
	(-5.06)	(-2.59)	(-3.086)	(-3.45)	(-4.154)	(-6.41)	(-2.68)	(-7.16)	(-4.62)	(-3.72)
SEPPKDH	-0.0008	-0.001	-0.001	-0.0007	-0.00074	-0.001	-0.001	-0.001	-0.0008	-0.0008
	(-4.63)	(-8.3)	(-3.42)	(-3.09)	(-4.64)	(-4.64)	(-7.753)	(-8.35)	(-7.35)	(-4.85)
OCTPKDH	-0.001	-0.0009	-0.0008	-0.0009	-0.0005	-0.001	-0.0009	-0.0006	-0.0006	-0.0001
	(8.03)	(-8.01)	(-3.72)	(-8.35)	(-5.12)	(-9.17)	(-14.75)	(-11.47)	(-12.83)	(-10.62
WKEND	-	-	0.016	0.005	-0.00004	-	-	-0.003	0.0005	-
	-	-	(2.63)	(1.65)	(-0.019)	-	-	(-1.24)	(0.18)	-
R^2	0.51	0.7	0.4	0.53	0.58	0.53	0.69	0.65	0.58	0.54
D.W.	1.30	1.34	1.26	1.33	1.41	1.18	1.6	1.51	1.9	1.15

Notes:
(1) t-values in parentheses
(2) Estimation period is 4/85-10/99

Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

HISTORY AND FORECAST OF SALES AND PURCHASES

	MWH Residential Sales	Change	(%) Growth	MWH Commercial Sales	Change	(%) Growth	MWH Other Sales	(%) Growth	MWH Total Sales	Adjustment Factor	MWH Purchases	(%) Growth
1975	1,808,343	-	-	572,982	-	-	129,934	-	2,511,258	0.123	2,819,385	-
1976	1,962,238	153,895	8.5	648,212	75,230	13.1	137,111	5.5	2,747,561	0.131	3,106,226	10.2
1977	2,194,733	232,495	11.8	730,524	82,312	12.7	144,169	5.1	3,069,426	0.125	3,452,228	11.1
1978	2,408,602	213,869	9.7	812,290	81,766	11.2	137,937	(4.3)	3,358,828	0.127	3,785,576	9.7
1979	2,523,004	114,402	4.7	881,632	69,342	8.5	138,330	0.3	3,542,966	0.111	3,934,498	3.9
1980	2,755,782	232,778	9.2	959,773	78,141	8.9	142,440	3.0	3,857,995	0.111	4,286,536	8.9
1981	2,991,266	235,484	8.5	1,044,568	84,795	8.8	95,114	(33.2)	4,130,948	0.112	4,593,435	7.2
1982	2,949,831	(41,435)	(1.4)	1,070,081	25,513	2.4	76,657	(19.4)	4,096,569	0.106	4,531,676	(1.3)
1983	3,198,058	248,227	8.4	1,156,318	86,237	8.1	75,972	(0.9)	4,430,347	0.117	4,949,498	9.2
1984	3,398,711	200,653	6.3	1,263,900	107,582	9.3	80,983	6.6	4,743,594	0.085	5,148,099	4.0
1985	3,691,619	292,908	8.6	1,412,278	148,378	11.7	90,714	12.0	5,194,611	0.102	5,723,399	11.2
1986	3,931,782	240,163	6.5	1,491,027	78,749	5.6	86,655	(4.5)	5,509,464	0.090	6,005,786	4.9
1987	4,357,087	425,305	10.8	1,597,572	106,545	7.1	89,808	3.6	6,044,467	0.073	6,484,170	8.0
1988	4,723,379	366,292	8.4	1,733,971	136,399	8.5	94,571	5.3	6,551,920	0.073	7,030,533	8.4
1989	5,076,789	353,410	7.5	1,921,868	187,897	10.8	136,505	44.3	7,135,163	0.078	7,690,356	9.4
1990	5,340,035	263,246	5.2	1,985,420	63,552	3.3	60,533	(55.7)	7,385,988	0.061	7,833,006	1.9
1991	5,525,440	185,405	3.5	2,031,051	45,631	2.3	90,897	50.2	7,647,388	0.069	8,176,133	4.4
1992	5,698,277	172,837	3.1	2,122,532	91,481	4.5	108,860	19.8	7,929,669	0.064	8,433,673	3.1
1993	5,999,095	300,818	5.3	2,261,094	138,562	6.5	102,461	(5.9)	8,362,649	0.074	8,977,911	6.5
1994	6,250,041	250,946	4.2	2,399,466	138,372	6.1	86,248	(15.8)	8,735,755	0.055	9,218,228	2.7
1995	6,906,619	656,578	10.5	2,564,149	164,683	6.9	101,426	17.6	9,572,195	0.068	10,218,400	10.8
1996	7,266,364	359,745	5.2	2,681,324	117,175	4.6	105,411	3.9	10,053,100	0.052	10,578,597	3.5
1997	7,238,240	(28,124)	(0.4)	2,808,825	127,501	4.8	123,161	16.8	10,170,226	0.055	10,734,384	1.5
1998	7,974,604	736,364	10.2	3,011,899	203,074	7.2	117,290	(4.8)	11,103,794	0.052	11,682,226	8.8
1999	7,992,818	18,214	0.2	3,108,882	96,983	3.2	126,775	8.1	11,228,474	0.061	11,912,382	2.0
2000	8,328,660	335,842	4.2	3,308,840	199,958	6.4	121,411	(4.2)	11,758,911	0.063	12,502,873	5.0
2001	8,645,010	316,350	3.8	3,467,842	159,002	4.8	125,064	3.0	12,237,916	0.063	13,014,763	4.1
2002	8,973,972	328,962	3.8	3,587,003	119,161	3.4	128,014	2.4	12,688,990	0.064	13,494,837	3.7
2003	9,307,610	333,638	3.7	3,710,871	123,868	3.5	130,906	2.3	13,149,388	0.064	13,984,718	3.6
2004	9,674,540	366,930	3.9	3,848,573	137,702	3.7	134,128	2.5	13,657,241	0.063	14,522,701	3.8
2005	9,995,925	321,385	3.3	3,968,592	120,019	3.1	136,637	1.9	14,101,154	0.064	14,997,521	3.3
2006	10,361,661	365,736	3.7	4,107,344	138,752	3.5	140,540	2.9	14,609,544	0.064	15,538,760	3.6
2007	10,736,798	375,137	3.6	4,249,624	142,280	3.5	143,377	2.0	15,129,799	0.064	16,092,598	3.6
2008	11,152,617	415,819	3.9	4,407,268	157,644	3.7	146,636	2.3	15,706,520	0.063	16,703,735	3.8
2009	11,512,837	360,220	3.2	4,544,551	137,283	3.1	149,053	1.6	16,206,440	0.064	17,238,749	3.2
2010	11,916,082	403,245	3.5	4,696,517	151,966	3.3	151,955	1.9	16,764,554	0.064	17,832,986	3.4
2011	12,333,746	417,664	3.5	4,855,104	158,587	3.4	155,867	2.6	17,344,718	0.064	18,450,714	3.5
2012	12,799,544	465,798	3.8	5,031,069	175,965	3.6	159,242	2.2	17,989,855	0.064	19,134,395	3.7
2013	13,201,927	402,383	3.1	5,181,839	150,770	3.0	161,706	1.5	18,545,471	0.064	19,729,264	3.1
2014	13,649,849	447,922	3.4	5,351,618	169,779	3.3	164,685	1.8	19,166,151	0.064	20,390,148	3.3
2015	14,110,681	460,832	3.4	5,523,279	171,661	3.2	167,704	1.8	19,801,664	0.064	21,066,959	3.3
2016	14,634,395	523,714	3.7	5,719,022	195,743	3.5	171,221	2.1	20,524,638	0.064	21,833,201	3.6
2017	15,085,567	451,172	3.1	5,886,823	167,801	2.9	173,858	1.5	21,146,248	0.064	22,498,983	3.0
2018	15,590,270	504,703	3.3	6,075,818	188,995	3.2	176,980	1.8	21,843,068	0.064	23,241,085	3.3
2019	16,107,364	517,094	3.3	6,267,019	191,201	3.1	180,123	1.8	22,554,506	0.064	23,998,853	3.3
2020	16,683,905	576,541	3.6	6,480,288	213,269	3.4	183,730	2.0	23,347,923	0.064	24,839,849	3.5

The two terms, Sales and Purchases are defined as follows. Purchases represent electricity purchases from Seminole by its members at the delivery point level; sales represent consumption at the retail consumer level.
Reporting actual data through December 1999.

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Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

RESIDENTIAL CONSUMERS AND ENERGY SALE

	Average Consumers	Change	(%) Growth	KWH/ Consumer	Change	(%) Growth	MWH Sales	Change	(%) Growth
1976	215,880	-	-	9,089	-	-	1,962,238	-	-
1977	227,936	12,056	5.58	9,629	540	5.94	2,194,733	232,495	11.85
1978	243,271	15,335	6.73	9,901	272	2.82	2,408,602	213,869	9.74
1979	262,622	19,351	7.95	9,607	(294)	(2.97)	2,523,004	114,402	4.75
1980	283,276	20,654	7.86	9,728	121	1.26	2,755,782	232,778	9.23
1981	302,533	19,257	6.80	9,887	159	1.63	2,991,266	235,484	8.55
1982	318,592	16,059	5.31	9,259	(628)	(6.35)	2,949,831	(41,435)	(1.39)
1983	335,363	16,771	5.26	9,536	277	2.99	3,198,058	248,227	8.41
1984	353,131	17,768	5.30	9,625	89	0.93	3,398,711	200,653	6.27
1985	374,234	21,103	5.98	9,864	239	2.48	3,691,619	292,908	8.62
1986	394,047	19,813	5.29	9,978	114	1.16	3,931,782	240,163	6.51
1987	421,801	27,754	7.04	10,330	352	3.53	4,357,087	425,305	10.82
1988	442,569	20,768	4.92	10,673	343	3.32	4,723,379	366,292	8.41
1989	462,593	20,024	4.52	10,975	302	2.83	5,076,789	353,410	7.48
1990	481,194	18,601	4.02	11,097	122	1.11	5,340,035	263,246	5.19
1991	495,363	14,169	2.94	11,154	57	0.51	5,525,440	185,405	3.47
1992	506,754	11,391	2.30	11,245	91	0.82	5,698,277	172,837	3.13
1993	518,687	11,933	2.35	11,566	321	2.85	5,999,095	300,818	5.28
1994	531,032	12,345	2.38	11,770	204	1.76	6,250,041	250,946	4.18
1995	546,832	15,800	2.98	12,630	860	7.31	6,906,619	656,578	10.51
1996	561,981	15,149	2.77	12,930	300	2.38	7,266,364	359,745	5.21
1997	578,345	16,364	2.91	12,515	(415)	(3.21)	7,238,240	(28,124)	(0.39)
1998	592,441	14,096	2.44	13,461	946	7.56	7,974,604	736,364	10.17
1999	607,059	14,618	2.47	13,166	(295)	(2.19)	7,992,818	18,214	0.23
2000	624,729	17,670	2.91	13,332	166	1.26	8,328,660	335,842	4.20
2001	641,782	17,053	2.73	13,470	138	1.04	8,645,010	316,350	3.80
2002	658,087	16,305	2.54	13,636	166	1.23	8,973,972	328,962	3.81
2003	674,269	16,182	2.46	13,804	168	1.23	9,307,610	333,638	3.72
2004	690,494	16,225	2.41	14,011	207	1.50	9,674,540	366,930	3.94
2005	706,751	16,257	2.35	14,143	132	0.94	9,995,925	321,385	3.32
2006	722,711	15,960	2.26	14,337	194	1.37	10,361,661	365,736	3.66
2007	738,690	15,979	2.21	14,535	198	1.38	10,736,798	375,137	3.62
2008	754,681	15,991	2.16	14,778	243	1.67	11,152,617	415,819	3.87
2009	770,680	15,999	2.12	14,939	161	1.09	11,512,837	360,220	3.23
2010	786,687	16,007	2.08	15,147	208	1.39	11,916,082	403,245	3.50
2011	803,264	16,577	2.11	15,355	208	1.37	12,333,746	417,664	3.51
2012	819,844	16,580	2.06	15,612	257	1.67	12,799,544	465,798	3.78
2013	836,427	16,583	2.02	15,784	172	1.10	13,201,927	402,383	3.14
2014	853,013	16,586	1.98	16,002	218	1.38	13,649,849	447,922	3.39
2015	869,601	16,588	1.94	16,227	225	1.41	14,110,681	460,832	3.38
2016	886,949	17,348	1.99	16,500	273	1.68	14,634,395	523,714	3.71
2017	904,300	17,351	1.96	16,682	182	1.10	15,085,567	451,172	3.08
2018	921,653	17,353	1.92	16,916	234	1.40	15,590,270	504,703	3.35
2019	939,005	17,352	1.88	17,154	238	1.41	16,107,364	517,094	3.32
2020	956,361	17,356	1.85	17,445	291	1.70	16,683,905	576,541	3.58

Reporting actual data through December 1999.

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Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

COMMERCIAL CONSUMERS AND ENERGY SALES

	Average Consumers	Change	(%) Growth	KWH/ Consumer	Change	(%) Growth	MWH Sales	Change	(%) Growth
1976	16,405	-	-	39,513	-	-	648,212	-	-
1977	17,872	1,467	8.94	40,875	1,362	3.45	730,524	82,312	12.70
1978	19,375	1,503	8.41	41,925	1,049	2.57	812,290	81,766	11.19
1979	21,511	2,136	11.02	40,985	(939)	(2.24)	881,633	69,343	8.54
1980	23,584	2,073	9.64	40,696	(289)	(0.71)	959,773	78,140	8.86
1981	24,838	1,254	5.32	42,055	1,359	3.34	1,044,567	84,794	8.83
1982	26,040	1,202	4.84	41,094	(961)	(2.29)	1,070,081	25,514	2.44
1983	27,901	1,861	7.15	41,444	350	0.85	1,156,317	86,236	8.06
1984	29,924	2,023	7.25	42,237	793	1.91	1,263,900	107,583	9.30
1985	32,225	2,301	7.69	43,826	1,589	3.76	1,412,278	148,378	11.74
1986	35,060	2,835	8.80	42,528	(1,298)	(2.96)	1,491,024	78,746	5.58
1987	38,204	3,144	8.97	41,564	(964)	(2.27)	1,587,911	96,887	6.50
1988	40,977	2,773	7.26	42,320	756	1.82	1,734,158	146,247	9.21
1989	42,969	1,992	4.86	44,710	2,390	5.65	1,921,156	186,998	10.78
1990	43,968	999	2.32	45,144	434	0.97	1,984,905	63,749	3.32
1991	44,388	420	0.96	45,785	640	1.42	2,032,295	47,390	2.39
1992	47,327	2,939	6.62	44,845	(940)	(2.05)	2,122,383	90,088	4.43
1993	49,079	1,752	3.70	46,048	1,203	2.68	2,259,982	137,599	6.48
1994	50,743	1,664	3.39	47,319	1,271	2.76	2,401,098	141,116	6.24
1995	51,421	678	1.34	49,828	2,509	5.30	2,562,211	161,113	6.71
1996	53,223	1,802	3.50	50,353	525	1.05	2,679,957	117,746	4.60
1997	55,263	2,040	3.83	50,806	452	0.90	2,807,667	127,710	4.77
1998	57,012	1,749	3.16	52,967	2,161	4.25	3,019,727	212,060	7.55
1999	59,044	2,032	3.56	52,654	(313)	(0.59)	3,108,882	89,155	2.95
2000	61,026	1,982	3.36	54,220	1,567	2.98	3,308,840	199,958	6.43
2001	62,783	1,757	2.88	55,235	1,015	1.87	3,467,842	159,002	4.81
2002	64,279	1,496	2.38	55,804	568	1.03	3,587,003	119,161	3.44
2003	65,807	1,528	2.38	56,390	587	1.05	3,710,871	123,868	3.45
2004	67,355	1,548	2.35	57,139	748	1.33	3,848,573	137,702	3.71
2005	68,909	1,554	2.31	57,592	453	0.79	3,968,592	120,019	3.12
2006	70,457	1,548	2.25	58,296	704	1.22	4,107,344	138,752	3.50
2007	72,008	1,551	2.20	59,016	720	1.24	4,249,624	142,280	3.46
2008	73,564	1,556	2.16	59,911	895	1.52	4,407,268	157,644	3.71
2009	75,120	1,556	2.12	60,497	587	0.98	4,544,551	137,283	3.11
2010	76,681	1,561	2.08	61,247	750	1.24	4,696,517	151,966	3.34
2011	78,296	1,615	2.11	62,010	762	1.24	4,855,104	158,587	3.38
2012	79,911	1,615	2.06	62,958	949	1.53	5,031,069	175,965	3.62
2013	81,528	1,617	2.02	63,559	601	0.95	5,181,839	150,770	3.00
2014	83,142	1,614	1.98	64,367	808	1.27	5,351,618	169,779	3.28
2015	84,760	1,618	1.95	65,164	797	1.24	5,523,279	171,661	3.21
2016	86,449	1,689	1.99	66,155	991	1.52	5,719,022	195,743	3.54
2017	88,139	1,690	1.95	66,790	635	0.96	5,886,823	167,801	2.93
2018	89,830	1,691	1.92	67,637	847	1.27	6,075,818	188,995	3.21
2019	91,519	1,689	1.88	68,478	841	1.24	6,267,019	191,201	3.15
2020	93,210	1,691	1.85	69,524	1,046	1.53	6,480,288	213,269	3.40

Reporting actual data through December 1999

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Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

MAXIMUM DEMAND (KW)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	WINTER	SUMMER
1980	866,000	1,030,000	1,133,000	572,000	695,000	830,000	873,000	861,000	803,000	619,000	682,000	849,000	1,133,000	873,000
1981	1,217,000	1,159,000	731,000	635,000	744,000	978,000	895,000	849,000	862,000	714,000	884,000	1,212,000	1,217,000	978,000
1982	1,342,000	779,000	854,000	695,000	789,000	918,000	891,000	928,000	907,000	761,000	752,000	996,000	1,342,000	928,000
1983	1,221,765	1,153,567	961,067	663,487	801,852	860,188	1,021,263	1,055,147	1,017,326	790,246	932,202	1,435,536	1,221,765	1,055,147
1984	1,267,794	1,324,650	1,223,860	760,955	947,390	962,064	986,120	1,074,806	1,014,355	823,079	996,997	1,190,221	1,435,536	1,074,806
1985	1,735,927	1,320,651	1,028,433	778,717	1,015,007	1,269,247	1,148,917	1,081,455	1,068,113	1,000,222	847,045	1,528,525	1,735,927	1,269,247
1986	1,717,359	1,379,188	1,327,793	846,669	1,104,821	1,157,111	1,276,258	1,250,274	1,181,038	1,194,134	966,467	984,611	1,717,359	1,276,258
1987	1,565,707	1,583,237	1,099,023	1,243,669	1,088,325	1,309,091	1,358,813	1,454,485	1,345,345	924,322	1,144,332	1,506,329	1,583,237	1,454,485
1988	1,873,079	1,719,077	1,500,041	1,037,255	1,216,437	1,385,079	1,450,098	1,473,819	1,428,412	1,218,872	1,157,695	1,831,703	1,873,079	1,473,819
1989	1,373,228	1,961,040	1,492,153	1,134,672	1,517,715	1,571,806	1,575,214	1,629,046	1,482,262	1,366,876	1,172,367	2,269,776	1,961,040	1,629,046
1990	1,621,803	1,328,968	1,264,485	1,277,552	1,482,646	1,700,672	1,714,057	1,681,135	1,651,224	1,496,100	1,149,416	1,599,248	2,269,776	1,714,057
1991	1,664,519	2,008,526	1,614,626	1,570,955	1,570,091	1,639,888	1,645,639	1,676,834	1,692,532	1,349,172	1,735,126	1,716,938	2,008,526	1,692,532
1992	2,245,411	1,809,094	1,388,818	1,255,034	1,457,553	1,707,289	1,859,530	1,688,825	1,681,010	1,258,974	1,699,433	1,743,770	2,245,411	1,859,530
1993	1,846,919	1,940,714	2,111,649	1,266,985	1,417,620	1,844,452	1,902,599	1,924,457	1,768,343	1,504,806	1,620,777	2,111,711	2,111,649	1,924,457
1994	2,125,384	2,290,599	1,504,141	1,454,479	1,732,385	1,876,848	1,860,927	1,871,014	1,833,162	1,594,958	1,389,167	1,553,964	2,290,599	1,876,848
1995	2,277,450	2,652,449	1,633,484	1,683,768	2,012,558	2,084,309	2,063,363	2,149,148	1,966,777	1,760,523	1,787,524	2,419,802	2,652,449	2,149,148
1996	2,863,376	3,079,347	2,417,943	1,654,082	2,003,434	2,118,641	2,204,505	2,013,863	2,040,778	1,614,168	1,631,238	2,468,084	3,079,347	2,204,505
1997	2,892,524	1,989,016	1,518,786	1,561,977	1,960,686	2,124,762	2,276,526	2,271,808	2,171,831	1,827,371	1,754,973	2,114,674	2,892,524	2,276,526
1998	2,167,873	2,086,826	2,379,827	1,714,381	2,238,200	2,560,160	2,411,648	2,480,415	2,177,460	2,120,299	1,600,625	2,097,402	2,379,827	2,560,160
1999	3,147,316	2,441,486	2,132,497	2,153,310	2,157,637	2,246,203	2,545,417	2,588,851	2,411,916	2,123,705	1,900,966	2,543,323	3,147,316	2,588,851
2000	3,173,527	2,992,986	2,423,886	1,889,787	2,263,411	2,478,268	2,542,729	2,599,032	2,427,522	2,112,438	2,061,872	2,829,244	3,173,527	2,599,032
2001	3,345,976	3,138,375	2,561,338	1,971,000	2,357,596	2,596,009	2,666,387	2,716,391	2,545,230	2,197,356	2,147,810	2,980,951	3,345,976	2,716,391
2002	3,472,677	3,260,843	2,661,258	2,048,314	2,447,619	2,690,395	2,761,179	2,811,937	2,635,373	2,277,856	2,230,017	3,093,764	3,472,677	2,811,937
2003	3,600,805	3,383,353	2,762,617	2,127,007	2,538,616	2,787,701	2,858,194	2,914,364	2,728,253	2,361,152	2,315,867	3,210,036	3,600,805	2,914,364
2004	3,730,663	3,506,705	2,833,859	2,207,170	2,632,039	2,886,118	2,957,125	3,014,557	2,822,998	2,446,514	2,403,462	3,328,527	3,730,663	3,014,557
2005	3,864,049	3,636,338	2,971,225	2,289,283	2,727,183	2,986,769	3,057,928	3,117,097	2,920,344	2,534,814	2,493,909	3,452,772	3,864,049	3,117,097
2006	4,002,966	3,770,938	3,082,808	2,376,617	2,829,645	3,093,738	3,164,072	3,224,717	3,021,711	2,627,128	2,589,989	3,582,479	4,002,966	3,224,717
2007	4,144,552	3,909,484	3,197,726	2,466,677	2,933,761	3,202,737	3,272,803	3,334,201	3,125,757	2,721,515	2,688,032	3,713,882	4,144,552	3,334,201
2008	4,289,784	4,048,636	3,282,237	2,558,867	3,041,279	3,314,576	3,383,696	3,446,260	3,232,038	2,818,456	2,787,330	3,849,973	4,289,784	3,446,260
2009	4,438,023	4,195,689	3,435,285	2,653,454	3,149,881	3,428,716	3,496,241	3,560,053	3,339,477	2,917,073	2,890,983	3,989,014	4,438,023	3,560,053
2010	4,588,969	4,343,080	3,558,671	2,750,451	3,261,681	3,545,019	3,612,309	3,676,870	3,450,091	3,018,866	2,996,774	4,132,731	4,588,969	3,676,870
2011	4,746,218	4,496,277	3,686,292	2,851,471	3,378,810	3,666,567	3,732,281	3,799,140	3,565,131	3,124,692	3,106,930	4,280,801	4,746,218	3,799,140
2012	4,906,392	4,650,920	3,786,450	2,956,157	3,498,647	3,790,668	3,854,193	3,923,116	3,682,958	3,232,840	3,219,136	4,434,974	4,906,392	3,923,116
2013	5,071,892	4,814,718	3,952,365	3,061,697	3,621,978	3,917,818	3,979,794	4,049,309	3,802,360	3,342,637	3,334,401	4,588,511	5,071,892	4,049,309
2014	5,238,235	4,979,402	4,090,101	3,170,430	3,746,767	4,049,106	4,107,767	4,178,140	3,925,160	3,455,746	3,451,572	4,748,087	5,238,235	4,178,140
2015	5,410,428	5,149,348	4,230,280	3,282,317	3,875,326	4,180,331	4,237,591	4,312,014	4,049,460	3,571,174	3,573,374	4,911,076	5,410,428	4,312,014
2016	5,586,830	5,303,654	4,345,369	3,399,568	4,011,027	4,319,600	4,374,689	4,449,838	4,181,555	3,692,645	3,700,775	5,081,624	5,586,830	4,449,838
2017	5,770,477	5,499,711	4,528,181	3,518,544	4,147,675	4,462,267	4,514,361	4,591,218	4,314,782	3,816,722	3,830,082	5,256,122	5,770,477	4,591,218
2018	5,958,111	5,684,994	4,683,757	3,641,337	4,288,839	4,607,571	4,657,294	4,734,474	4,452,613	3,943,336	3,962,698	5,434,491	5,958,111	4,734,474
2019	6,149,921	5,873,543	4,841,454	3,766,509	4,434,267	4,756,425	4,803,179	4,882,302	4,591,075	4,073,750	4,098,849	5,616,454	6,149,921	4,882,302
2020	6,347,995	5,895,543	4,972,508	3,896,086	4,584,367	4,910,060	4,953,422	5,034,623	4,733,681	4,208,337	4,239,464	5,803,518	6,347,995	5,034,623

Reporting actual data through December 1999

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Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

PURCHASES (MWH)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
1983	450,794	380,647	376,095	325,109	379,165	418,075	497,944	504,751	416,371	378,078	357,511	464,959	4,949,499
1984	489,060	401,485	396,505	359,303	416,204	450,614	474,504	518,644	434,391	402,979	398,657	405,751	5,148,097
1985	557,997	427,310	394,729	381,983	462,923	533,087	534,976	537,496	475,903	483,861	404,716	528,418	5,723,399
1986	525,610	409,239	461,771	400,817	477,293	543,614	608,663	588,596	568,629	498,095	453,432	470,028	6,005,787
1987	568,245	458,688	464,827	455,365	508,775	614,128	665,905	707,514	601,597	448,918	461,735	528,473	6,484,170
1988	646,197	568,426	518,754	477,150	528,924	624,554	689,709	708,218	668,800	508,146	490,095	601,562	7,030,535
1989	534,324	553,257	568,829	524,974	633,688	704,993	761,326	777,799	701,560	609,038	536,451	784,120	7,690,359
1990	594,820	510,273	555,311	538,617	695,670	757,493	796,657	814,717	748,700	663,423	543,202	614,121	7,833,004
1991	620,330	571,214	600,650	613,737	740,196	754,465	809,211	835,851	766,263	605,790	610,624	647,797	8,176,128
1992	744,802	609,514	605,449	578,145	649,592	792,932	919,350	826,203	782,292	606,897	638,861	679,634	8,433,671
1993	657,834	647,355	670,669	575,341	691,813	850,778	939,916	954,417	847,219	689,837	650,013	802,711	8,977,903
1994	803,401	633,858	683,828	699,926	807,261	880,552	895,900	895,124	810,120	726,093	658,540	723,626	9,218,229
1995	836,311	738,435	681,119	699,251	944,245	899,025	1,021,767	1,034,052	920,655	818,251	733,648	891,639	10,218,398
1996	917,006	835,551	841,887	713,816	927,798	942,575	1,085,327	1,014,523	949,619	773,932	727,719	848,845	10,578,598
1997	878,465	714,818	781,324	730,160	892,535	972,673	1,107,660	1,109,932	1,019,421	848,613	753,078	925,706	10,734,385
1998	866,857	800,395	867,655	791,263	1,020,613	1,248,260	1,222,318	1,194,747	1,042,768	964,620	795,855	866,876	11,682,227
1999	934,422	803,881	840,509	924,375	1,003,031	1,061,484	1,247,300	1,278,756	1,083,699	948,577	807,320	979,027	11,912,381
2000	1,026,095	949,770	914,988	880,922	1,048,788	1,139,409	1,255,535	1,271,625	1,136,742	985,639	856,117	1,037,241	12,502,871
2001	1,078,179	958,941	956,857	921,098	1,094,784	1,187,600	1,307,160	1,323,625	1,183,675	1,027,318	893,628	1,081,905	13,014,770
2002	1,119,346	995,743	993,597	956,595	1,136,219	1,230,553	1,353,561	1,370,121	1,225,496	1,064,530	926,749	1,122,333	13,494,843
2003	1,160,203	1,032,571	1,030,861	992,735	1,178,067	1,274,799	1,401,031	1,417,539	1,268,522	1,103,015	961,380	1,163,996	13,984,719
2004	1,201,633	1,108,390	1,068,891	1,029,539	1,221,014	1,319,607	1,449,450	1,466,207	1,312,457	1,142,407	996,704	1,206,403	14,522,702
2005	1,244,170	1,108,662	1,107,631	1,067,256	1,264,749	1,365,367	1,498,795	1,516,051	1,357,595	1,183,084	1,033,178	1,250,983	14,997,521
2006	1,288,536	1,149,173	1,148,757	1,107,377	1,311,868	1,414,106	1,550,807	1,568,368	1,404,574	1,225,699	1,071,918	1,297,577	15,538,760
2007	1,334,259	1,190,947	1,191,183	1,148,746	1,359,787	1,463,701	1,604,067	1,621,631	1,452,816	1,269,186	1,111,500	1,344,779	16,092,602
2008	1,381,032	1,277,604	1,234,209	1,191,065	1,409,281	1,514,642	1,658,431	1,676,148	1,502,089	1,313,905	1,151,664	1,393,671	16,703,741
2009	1,428,631	1,277,333	1,278,865	1,234,542	1,459,289	1,566,599	1,713,577	1,731,482	1,551,925	1,359,355	1,193,526	1,443,628	17,238,752
2010	1,477,132	1,321,872	1,324,525	1,279,129	1,510,751	1,619,554	1,770,490	1,788,313	1,603,245	1,406,333	1,236,362	1,495,277	17,832,983
2011	1,527,627	1,368,085	1,371,730	1,325,499	1,564,668	1,674,926	1,829,313	1,847,802	1,656,551	1,455,111	1,280,877	1,548,525	18,450,714
2012	1,579,134	1,466,218	1,420,578	1,373,586	1,619,822	1,731,380	1,889,080	1,908,104	1,711,231	1,504,978	1,326,320	1,603,963	19,134,394
2013	1,632,360	1,464,344	1,470,118	1,422,032	1,676,596	1,789,304	1,950,668	1,969,508	1,766,614	1,555,622	1,372,908	1,659,196	19,729,270
2014	1,685,883	1,514,215	1,521,055	1,472,009	1,734,081	1,849,103	2,013,422	2,032,195	1,823,577	1,607,730	1,420,324	1,716,559	20,390,153
2015	1,741,294	1,565,060	1,573,054	1,523,354	1,793,290	1,908,890	2,077,128	2,097,369	1,881,242	1,660,971	1,469,641	1,775,663	21,066,956
2016	1,798,071	1,675,671	1,627,501	1,577,172	1,855,727	1,972,253	2,144,338	2,164,398	1,942,490	1,716,892	1,521,280	1,837,404	21,833,197
2017	1,857,238	1,671,955	1,683,389	1,631,820	1,918,674	2,037,254	2,212,865	2,233,193	2,004,286	1,774,067	1,573,578	1,900,669	22,498,988
2018	1,917,741	1,728,371	1,741,068	1,688,141	1,983,694	2,103,424	2,282,984	2,302,925	2,068,206	1,832,390	1,627,229	1,964,909	23,241,082
2019	1,979,492	1,785,393	1,799,503	1,745,556	2,050,650	2,171,208	2,354,559	2,374,822	2,132,415	1,892,490	1,682,364	2,030,394	23,998,846
2020	2,042,605	1,909,653	1,859,396	1,804,738	2,119,382	2,240,584	2,427,705	2,448,171	2,197,881	1,953,887	1,738,676	2,097,180	24,839,858

Reporting actual data through December 1999.

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Seminole Electric Cooperative, Inc.
2000 Power Requirements Study

POPULATION

	History/ Base	Change	(%) Growth	High Growth	Change	(%) Growth	Low Growth	Change	(%) Growth
1975	674,886	-	-	-	-	-	-	-	-
1976	694,375	19,489	2.9	-	-	-	-	-	-
1977	720,212	25,837	3.7	-	-	-	-	-	-
1978	752,943	32,731	4.5	-	-	-	-	-	-
1979	790,447	37,504	5.0	-	-	-	-	-	-
1980	829,810	39,363	5.0	-	-	-	-	-	-
1981	862,358	32,548	3.9	-	-	-	-	-	-
1982	893,395	31,037	3.6	-	-	-	-	-	-
1983	925,242	31,847	3.6	-	-	-	-	-	-
1984	964,908	39,666	4.3	-	-	-	-	-	-
1985	1,005,711	40,803	4.2	-	-	-	-	-	-
1986	1,047,614	41,903	4.2	-	-	-	-	-	-
1987	1,092,090	44,476	4.2	-	-	-	-	-	-
1988	1,133,939	41,849	3.8	-	-	-	-	-	-
1989	1,176,313	42,374	3.7	-	-	-	-	-	-
1990	1,212,130	35,817	3.0	-	-	-	-	-	-
1991	1,243,672	31,542	2.6	-	-	-	-	-	-
1992	1,274,812	31,140	2.5	-	-	-	-	-	-
1993	1,303,073	28,261	2.2	-	-	-	-	-	-
1994	1,322,944	19,871	1.5	-	-	-	-	-	-
1995	1,345,740	22,796	1.7	-	-	-	-	-	-
1996	1,380,657	34,917	2.6	-	-	-	-	-	-
1997	1,416,857	36,200	2.6	-	-	-	-	-	-
1998	1,435,487	18,630	1.3	-	-	-	-	-	-
1999	1,493,001	57,514	4.0	-	-	-	-	-	-
2000	1,531,672	38,671	2.6	1,584,201	-	-	1,476,773	-	-
2001	1,565,190	33,518	2.2	1,643,543	59,342	3.7	1,485,735	8,962	0.6
2002	1,598,709	33,519	2.1	1,702,886	59,343	3.6	1,494,699	8,964	0.6
2003	1,632,226	33,517	2.1	1,762,225	59,339	3.5	1,503,664	8,965	0.6
2004	1,665,745	33,519	2.1	1,821,569	59,344	3.4	1,512,629	8,965	0.6
2005	1,699,263	33,518	2.0	1,880,911	59,342	3.3	1,521,592	8,963	0.6
2006	1,732,113	32,850	1.9	1,944,972	64,061	3.4	1,525,430	3,838	0.3
2007	1,764,961	32,848	1.9	2,009,033	64,061	3.3	1,529,265	3,835	0.3
2008	1,797,807	32,846	1.9	2,073,092	64,059	3.2	1,533,104	3,839	0.3
2009	1,830,656	32,849	1.8	2,137,153	64,061	3.1	1,536,941	3,837	0.3
2010	1,863,504	32,848	1.8	2,201,215	64,062	3.0	1,540,779	3,838	0.2
2011	1,897,496	33,992	1.8	2,270,955	69,740	3.2	1,540,190	(589)	(0.0)
2012	1,931,488	33,992	1.8	2,340,697	69,742	3.1	1,539,600	(590)	(0.0)
2013	1,965,479	33,991	1.8	2,410,437	69,740	3.0	1,539,010	(590)	(0.0)
2014	1,999,469	33,990	1.7	2,480,179	69,742	2.9	1,538,422	(588)	(0.0)
2015	2,033,460	33,991	1.7	2,549,920	69,741	2.8	1,537,831	(591)	(0.0)
2016	2,068,987	35,527	1.7	2,625,722	75,802	3.0	1,532,813	(5,018)	(0.3)
2017	2,104,514	35,527	1.7	2,701,527	75,805	2.9	1,527,795	(5,018)	(0.3)
2018	2,140,043	35,529	1.7	2,777,330	75,803	2.8	1,522,772	(5,023)	(0.3)
2019	2,175,570	35,527	1.7	2,853,135	75,805	2.7	1,517,754	(5,018)	(0.3)
2020	2,211,096	35,526	1.6	2,928,937	75,802	2.7	1,512,734	(5,020)	(0.3)

Reporting actual data through 1999.

G. APPENDIX I-B

REQUEST FOR PROPOSALS

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

July 6, 2000

RFP No. IP 2004 - Request for Firm Year-Round Intermediate and Peaking Capacity

Purpose

Seminole Electric Cooperative, Inc. is seeking proposals from qualified and eligible bidders to meet portions of its power supply requirements, beginning in **2004.** Proposals for intermediate and peaking capacity will be considered. Proposals providing demand side options will also be considered for evaluation. Seminole favors short-term proposals in the range of two (2) to five (5) years' duration but will consider attractive longer-term proposals. Joint ownership proposals will also be considered. Seminole is primarily interested in proposals that will allow maximum control and the flexibility to use resources for any purpose.

Proposals must offer "firm" capacity from identified generating resources. This RFP is open to all parties, including, but not limited to: independent power producers, exempt wholesale generators, qualifying facilities (under PURPA), power marketers, and utilities.

Description of Capacity Requirements

Seminole has a **minimum** need of 160 MW of intermediate type capacity, beginning May 1, 2004. In addition, Seminole will evaluate an **additional** 440 MW of capacity to potentially displace existing power supply arrangements, beginning January 1, 2004. In total, Seminole is seeking proposals for intermediate and peaking capacity needs, in the following amounts, not to exceed a total of 600 MW:

Between 160 and 400 MW of intermediate type capacity
Up to 350 MW of peaking type capacity.

Proposals may be for less than the amounts shown above. Offers of capacity and energy may be from one or more resources. Such resources must be suitable to meet Seminole's firm load and/or reserve obligations (i.e., Seminole must have first-call priority for shared resources).

Seminole will **not** consider proposals that describe non-firm capacity.

Scheduling

Preference will be given to proposals that maximize scheduling flexibility, including real-time control capability, such as automatic generation control (AGC).

Delivery to the Seminole System

Seminole currently serves portions of its load directly through its own transmission system or through the transmission systems of Florida Power Corporation (FPC) or Florida Power and Light Company (FPL). Therefore, Seminole will consider offers that deliver capacity and energy to the Seminole, FPC or FPL transmission systems. Wheeling and interconnection arrangements and costs to deliver the capacity and energy to the Seminole, FPC or FPL transmission system delivery points are the responsibility of the bidder. Prices quoted must be based upon net capacity delivered to the transmission tie. All proposals must identify any wheeling and interconnection agreements with third parties that are required to deliver the power and energy to Seminole. Seminole would expect transmission arrangements to deliver the offered capacity to be firm. If the bidder desires to achieve the equivalence of firm delivered capacity by other means, (e.g., alternative generating resources), then a thorough explanation of such alternative arrangements should be provided.

Pricing

All price quotes must be communicated on the attached forms. Capacity prices should be quoted in the form of a flat amount per month or nominal dollars per kilowatt-month ($/kW-month). If capacity price is quoted on the basis of $/kW-month, the kW to which the capacity price is applied must be stated. Non-fuel energy pricing should be bid in nominal dollars or mills per kilowatt-hour. The proposal shall specify the methodology for determining fuel billings.

Prices quoted must include all costs that Seminole would be expected to pay for the capacity and energy proposed.

Other Terms and Conditions

Each proposal must comply with all applicable federal and state laws. All permits, licenses, fees, emissions allowances, and environmental requirements are the responsibility of the bidder for the entire term of each proposal. Proposals must include detailed descriptions of guarantees and related remedies for failure to perform. Each proposal must provide guarantees for in-service dates, contract capacity, heat rates and availability. Operational characteristics such as (but not limited to) capacity limitations, ramp limitations, maximum or minimum run-times, maximum or minimum down-times, fuel limitations, etc., should also be specified. If a resource included in a proposal is not yet in service, a detailed milestone schedule describing major project activities leading up to the commencement date for commercial service should also be provided.

Seminole is currently engaged in negotiations relating to all or a portion of the needs identified in this RFP. Parties involved in those negotiations are not required to submit bids under this RFP and will receive written confirmation of such status. Those negotiations may continue on a parallel path with

this bid solicitation.

Reservation of Rights

Seminole reserves the right, without qualification and at its sole discretion, to amend or withdraw this request for offers and to reject any or all proposals or portion of proposals received. Those who submit proposals to Seminole do so without recourse against Seminole for either rejections by Seminole or failure to execute a purchased power agreement for any reason. Seminole also reserves the right to request further information, as necessary, to complete its evaluation of the proposals received.

Procedures for Application

1. A copy of this Request for Proposals, together with supporting application forms, is on the Seminole Electric Cooperative, Inc. web site, "**www.seminole-electric.com**". The link to the Request for Proposals appears on the Seminole home page. The link to the application forms is in the **"Pricing"** section of this RFP.

2. Seminole requires that each bidder pay a non-refundable application fee of five hundred dollars ($500.00) for each proposal submitted. Respondents are requested to submit their proposals via e-mail to the e-mail address below. In addition, an **original proposal, signed by an authorized officer**, plus **four (4) copies** must be mailed. The mailing addresses are:

   By Courier:

   Seminole Electric Cooperative, Inc.
   Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
   16313 North Dale Mabry Highway
   Tampa, FL 33618

   By U.S. Mail:

   Seminole Electric Cooperative, Inc.
   Attention: Ms. Trudy Novak, Director of Pricing and Bulk Power Contracts
   P.O.Box 272000
   Tampa, FL 33688-2000

   By E-Mail:

   "rfpresponse@seminole-electric.com".

3. All proposals must arrive via e-mail by **August 31, 2000**. Paper copies must arrive at Seminole's Tampa offices by the same date. Seminole is not obliged to contact bidders concerning missing or incomplete forms. Only versions of the forms attached to this Request for Proposals may be used to submit proposals.

4. The bidder must designate a contact person with whom Seminole can communicate with questions about the proposal.

5. All offer packages should include any additional information required to support evaluation of the proposal, including a completed Credit Application, which form is included in the attached forms accompanying this RFP. Documents requested in support of the Credit Application must accompany the mailed versions of the proposals.

Confidentiality

Seminole recognizes that certain information contained in proposals submitted may be confidential and, as permitted by applicable law, will treat each proposal in its entirety as confidential. If Seminole is formally requested by any regulatory or judicial authority, including the Rural Utilities Service (RUS), to disclose information with regard to a proposal, Seminole may disclose such information.

Seminole also reserves the right to disclose any or all of the information submitted in response to this request to any consultant(s) retained by Seminole to assist with the various aspects of this process. Seminole will take reasonable steps to ensure that its consultant(s) will also treat information received from bidders as confidential; however, Seminole will not be liable for any failure of any consultants(s) to do so.

Communication

Seminole expects to identify a short list by **October 30, 2000**. Negotiations with those bidders on the short list are expected to be completed by **February 28, 2001**. Contracts detailing the terms and conditions of the completed capacity power purchase agreements are expected to be executed by **May 31, 2001**.

This RFP is available either on the Internet at **http://www.seminole-electric.com**, or by e-mail, fax or U.S. mail.

If interested parties have any questions or desire any additional information related to this request for offers, **such questions or requests should be made in writing and directed via fax at (813) 264-7906 or via e-mail (to the e-mail address above) to** Ms. Trudy S. Novak, Director of Pricing and Bulk Power Contracts.

GENERAL INFORMATION

The undersigned submits this proposal in response to Seminole's Request for Proposals for power supply in the Year 2004 (Submit separate forms for each proposal offered):

On Forms Provided Herein, Add Additional Rows As Needed

Guaranteed Capacity (MW) Delivered to the Transmission Tie:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Commencement Date (mo/da/yr): ☐ **Termination Date (mo/da/yr):** ☐

Please describe remedies for failure to deliver committed capacity and/or failure to attain in-service dates:

_____

_____

Complete Company Name of Bidder _____

Address _____

Telephone No. _____

Contact Person(s) _____

E-mail Address(es) _____

Fax Machine No. _____

Authorized Signature _____

Bidder's Business Classification (IOU, QF, Power Marketer, Merchant Plant, etc):

_____

Type of Resource Offered:

System Purchase(1); Unit Purchase, Existing(2); Unit Purchase, Proposed(3); Portfolio (4): ☐

Please indicate here whether this proposal is for Seminole's Intermediate or Peaking need: _____

Please Identify the Company Responsible for Operating the Resource: _____

_____

For System Purchases:

Resources Included _____ (Entire System or Group of Units?)

Number of Units _____

Type (Base(1), Intermediate(2), Peaking(3), Combination(4)) ☐

For Unit Purchases or Joint Ownership Proposals:

Current Status (In Operation (1), Under Construction (2), Proposed (3)): ☐

In-service Date (mo/da/yr) under construction/proposed: ☐

Generating Technology:

_____

Primary and Secondary Fuel Types:

_____

For Power Marketers:

Please attach a summary to describe your portfolio.

The following information is requested for proposals describing UNIT purchases or JOINT OWNERSHIP Proposals:

Facility Description and Geographic Location of Each Resource in Proposal:

Expected In-service Date(s) and Milestone Schedule for Units Under Construction:

Proximity of Each Resource (Miles) to Nearest Currently Existing Transmission Facilities:

Describe Transmission Facilities:

Identify Control Area They Are In:

If Transmission Facilities do not Currently Exist, Please Discuss Interconnection Plans:

The following information for proposals describing SYSTEM purchases:

Characteristics of System Purchase Proposed (i.e., describes Firm Capacity, Equivalent to Native Load, etc.):

GENERAL INFORMATION

The undersigned submits this proposal in response to Seminole's Request for Proposals for power supply in the Year 2004 (Submit separate forms for each proposal offered):

On Forms Provided Herein, Add Additional Rows As Needed

Guaranteed Capacity (MW) Delivered to the Transmission Tie:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Commencement Date (mo/da/yr): [ ] **Termination Date (mo/da/yr):** [ ]

Please describe remedies for failure to deliver committed capacity and/or failure to attain in-service dates:

_____

_____

Complete Company Name of Bidder _____

Address _____

Telephone No. _____

Contact Person(s) _____

E-mail Address(es) _____

Fax Machine No. _____

Authorized Signature _____

Bidder's Business Classification (IOU, QF, Power Marketer, Merchant Plant, etc):

_____

Type of Resource Offered:

System Purchase(1); Unit Purchase, Existing(2); Unit Purchase, Proposed(3); Portfolio (4): [ ]

Please indicate here whether this proposal is for Seminole's Intermediate or Peaking need: _____

Please Identify the Company Responsible for Operating the Resource: _____

_____

For System Purchases:

Resources Included _____ (Entire System or Group of Units?)

Number of Units _____

Type (Base(1), Intermediate(2), Peaking(3), Combination(4)) [ ]

For Unit Purchases or Joint Ownership Proposals:

Current Status (In Operation (1), Under Construction (2), Proposed (3)): [ ]

In-service Date (mo/da/yr) under construction/proposed: [ ]

Generating Technology:

_____

Primary and Secondary Fuel Types:

_____

For Power Marketers:

Please attach a summary to describe your portfolio.

The following information is requested for proposals describing UNIT purchases or JOINT OWNERSHIP Proposals:

Facility Description and Geographic Location of Each Resource in Proposal:

Expected In-service Date(s) and Milestone Schedule for Units Under Construction:

Proximity of Each Resource (Miles) to Nearest Currently Existing Transmission Facilities:

Describe Transmission Facilities:

Identify Control Area They Are In:

If Transmission Facilities do not Currently Exist, Please Discuss Interconnection Plans:

The following information for proposals describing SYSTEM purchases:

Characteristics of System Purchase Proposed (i.e., describes Firm Capacity, Equivalent to Native Load, etc.):

H. APPENDIX I-C

MEMORANDUM OF UNDERSTANDING

PRIVILEGED AND CONFIDENTIAL

MEMORANDUM OF UNDERSTANDING REGARDING THE PURCHASE AND SALE OF ELECTRIC CAPACITY AND ENERGY BETWEEN CALPINE ENERGY SERVICES, L.P. AND SEMINOLE ELECTRIC COOPERATIVE, INC.

INTRODUCTION

This memorandum of understanding ("MOU") provides the framework within which Seminole Electric Cooperative, Inc. ("Buyer"), and Calpine Energy Services, L.P. ("Seller") collectively referred to herein as "the Parties," have agreed to negotiate toward a definitive agreement for the purchase and sale of electric capacity and energy.

RECITALS

WHEREAS, Buyer is an cooperative corporation organized and existing pursuant to the laws of the State of Florida; and

WHEREAS, Buyer provides wholesale electric capacity and energy to its distribution cooperative members' electric utility systems, which in turn provide that electric capacity and energy to their retail member/consumers within Florida; and

WHEREAS, Seller is a Delaware limited partnership engaged in the business of marketing wholesale electric capacity and energy in the United States; and

WHEREAS, Calpine Construction Finance Company, L.P. ("CCFC"), an affiliate of Seller, is presently developing the Osprey Energy Center, a natural gas fired, combined cycle power plant in Auburndale, Polk County (the "Plant") which through a contractual arrangement Seller provides fuel to and receives all of the electric capacity and energy from the Plant for sale at wholesale in Florida; and

WHEREAS, Buyer needs additional firm generating capacity and energy resources to meet the needs of its distribution cooperative members' electric utility systems; and

WHEREAS, the intent of Buyer and Seller is to establish a definitive agreement (or agreements) ("Power Purchase Agreement" or "PPA") pursuant to which the full output of the Plant will be committed, as provided herein, to Buyer for the benefit of Buyer, Buyer's member systems, and the retail member-customers of Buyer's member systems, and

WHEREAS, Buyer and Seller have entered into discussions regarding the sale and purchase of firm electric capacity and energy from the Plant, which discussions have led the Parties to agree to certain fundamental commercial principles and to pursue negotiations toward a PPA that would incorporate such principles for the purchase by Buyer and the sale by Seller, on a firm basis, Plant electric capacity and energy;

NOW, THEREFORE, in view of the foregoing premises and in consideration of the mutual benefits to be gained by Buyer and Seller, the Parties have executed this MOU evidencing those agreed upon fundamental commercial principles and their intent to negotiate in good faith, , a PPA which incorporates such fundamental commercial principles for the purchase by Buyer and the sale by Seller of firm electric capacity and energy from the Plant in substantial accordance with the prices, terms, and conditions set forth herein.

FUNDAMENTAL AGREED UPON PRINCIPLES

Section 1. Duration

The PPA shall become effective upon signing by both Parties. Unless terminated early pursuant to the terms thereof, the PPA shall continue in effect through May 22, 2020 (the "Term").

Section 2. Scope

Subsection 2.1 Firm Capacity

Beginning with the later of the Commercial Operation Date of the Plant, as defined below, and June 1, 2004 ("Commencement Date"), for the remainder of the Term, Seller shall provide and Buyer shall purchase 350 MW of firm electric capacity from the Plant

adjusted for seasonal variability per the monthly firm capacity schedule attached hereto as Attachment 1. Such amounts identified above shall be defined as "Firm Capacity."

"Commercial Operation Date"

"Commercial Operation Tests" means:

Subsection 2.2 Energy.

For the period between the Commencement Date and the end of the Term, Seller shall be obligated to sell and deliver at the Delivery Point, and Buyer shall be obligated to purchase and receive, an amount of electric energy for each hour scheduled by Buyer up to the number of MWh that corresponds to the MW of Firm Capacity specified in Subsection 2.1.

("Energy").

Subsection 2.3

Subsection 2.4

Subsection 2.5 Reserved Firm Capacity.

In addition to the Firm Capacity specified in Subsection 2.1 above, for the period between the Commercial Operation Date and the end of the Term, Seller shall provide Buyer, on a reserved firm capacity option basis, the right to call upon, .

, up to the difference between (i) Buyer's then committed Firm Capacity amount and (ii) the then-full MW capability of the Plant (said difference hereinafter being defined as "Reserved Firm Capacity");

If Buyer calls upon all or a portion of the Reserved Firm Capacity as provided for above, such called upon portion of Reserved Firm Capacity shall be considered Firm Capacity.

Subsection 2.6 Exclusivity.

For the period between the Commencement Date and the end of the Term, the Plant shall be dedicated to providing Firm Capacity and scheduled Energy as described herein to Buyer, except during those periods when Seller is performing testing and operational maintenance as provided herein.

Section 3. Price

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Section 4. Scheduling

Section 5. Outages

Subsection 5.1 Outages

An "Outage" of the Plant shall mean the unavailability of the Plant, either in whole or in part, caused by either a Scheduled Outage or an Unscheduled Outage.

Subsection 5.2 Scheduled Outages

Subsection 5.3 Unscheduled Outages

Section 6. Failure to Provide or Receive Energy

Subsection 6.1 Failure of Seller to Provide Energy.

Subsection 6.2 Failure of Buyer to Receive Energy.

Subsection 6.3

Section 7.

Section 8.

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Section 9. Dispute Resolution

The dispute resolution procedures set forth in this Section 9 shall govern the resolution of any dispute, controversy or claim arising out of, under, or relating to the PPA (a "Dispute") unless mutually agreed to by the Parties.

Section 10. Confidentiality of Shared Information

The existing confidentiality agreement between Buyer and Seller shall remain in full force and effect while the Parties negotiate the PPA consistent with this agreement.

Section 11. Buyer's Support for Need Determination of the Plant

Buyer shall provide such support for the petition for determination of need for Buyer's Plant as the Parties mutually agree is necessary to facilitate and expedite the permitting and construction of the Plant. If and when the PPA is executed by the Parties, Buyer's support shall include, if deemed necessary and appropriate, becoming a co-applicant for the requisite determination of need for the Plant.

Section 12. Force Majeure

Section 13 Applicable Law

Section 14

Section 15

Section 16 Ancillary Services

EXECUTION

By the signatures of their authorized representatives below, Buyer and Seller commit to negotiate in good faith a PPA, which, subject to approval of their respective board of directors and the Rural Utilities Service, incorporates the agreed upon fundamental commercial principles and mutually agreed upon general terms and conditions which are consistent with other power purchase agreements. This MOU may be executed in any number of counterparts, such counterparts may be transmitted by either Party to the other Party by facsimile transmission, and each executed counterpart or facsimile transmission thereof shall have the same force and effect as an original instrument.

CALPINE ENERGY SERVICES L.P.
a Delaware limited partnership

By: _____
Name: Bob Alff
Title: Senior Vice President

SEMINOLE ELECTRIC COOPERATIVE, INC.
a Florida corporation

By: _____
Name: R.J. MIDULLA
Title: EXEC V.P. & G.M.

ATTACHMENT 1

MONTHLY FIRM CAPACITY SCHEDULE

Month	Capacity
January	360
February	360
March	354
April	350
May	346
June	341
July	340
August	340
September	342
October	347
November	355
December	360

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ATTACHMENT 2

PRIVILEGED AND CONFIDENTIAL

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