Parsons Report No. EJ-2001-07
October 2001

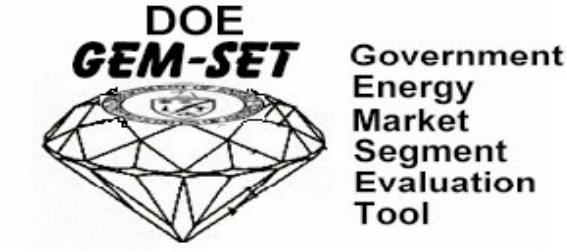
Characterization of Florida Reliability Coordinating Council Region

DOE GEM-SET

Government
Energy
Market
Segment
Evaluation
Tool

Prepared for the United States Department of Energy
National Energy Technology Laboratory

Parsons Infrastructure & Technology Group Report No. **EJ-2001-07**
DOE Contract Number DE-AM26-99FT40465 / Task 50901: Market and Environmental Analysis
Parsons Job / WBS: 736223 / 00100



Final Report

GEMSET Regional Segmentation Analysis:

Characterization of the Florida Reliability Coordinating Council Region

01/03/2002 2:03 PM ***DRAFT***

October 2001

Prepared for:
The United States Department of Energy
National Energy Technology Laboratory

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PARSONS

Characterizing the Florida Reliability Coordinating Council Region

Key Services

- Characterize current FRCC electric sale prices, and potential retrun to generating unit owners from operation within FRCC
- Estimate FRCC demand growth, the existing units in the State of Florida, and the generating units planned over the next ten years for construction to meet demand growth
- Evaluate the fuel price history and prospects for the FRCC region
- Provide the historical base of information needed to evaluate the economic merits of new generation projects for consideration in FRCC

Study Region
State of Florida

Client
U.S. Department of Energy
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October 2001-November 2001

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Parsons Value
Subtask activity as part of GEMSET project

Contract Type
Cost plus award fee

Contract / Job Numbers
DE-AM26-99FT40465 - Task 50901
Parsons: 736223 / 00100

Project Description

Electric Power Market Condition Evaluation in a Regulated Electric Market Region

The Florida Reliability Coordinating Council (FRCC) region includes generators that serve the electric market in the state of Florida, and includes over 50 public and private utilities in the state. Florida is one of the fastest growing states in the US, and is now the fourth largest in terms of population. Parsons evaluated the regulated market conditions that exist in the FRCC region. Some features of this study include the following:

- Demands were characterized hour-by-hour for each of the utilities, and summarized for the entire FRCC.
- A data base is developed that characterizes FRCC utility cost of generation and load demand that allows ease of evaluation of the potential return to units having different production costs.
- Fuel prices within the region were assessed and projected for future evaluations.
- The units operting in the region are identified.
- The future expectation of FRCC for demand growth, and the list of planned units that might meet that demand growth identified.

Key project team members:

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- Albert A. Herman, Jr.
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Table of Contents

Section **Title** **Page**

NOTICE ..... **(inside front cover)**

PROJECT DESCRIPTION ..... **i**

TABLE OF CONTENTS ..... **iv**

LIST OF EXHIBITS ..... **vi**

ACKNOWLEDGMENTS ..... **vii**

ABBREVIATIONS AND ACRONYMS ..... **ix**

1. SUMMARY OF FLORIDA RELIABILTY COORDINATING COUNCIL (FRCC) **1**

1.1 INTRODUCTION 1
1.2 THE OTHER GEMSET REGIONS 3

2. FRCC REGION **6**

2.1 UTILITY OWNERSHIP AND TERRITORY 6
2.2 MEMBERSHIP 11
2.3 ORGANIZATION 12
2.4 ASSESSMENT PROCESS 12
2.5 DEMAND AND ENERGY 12
2.6 RESOURCE ASSESSMENT 13
2.7 TRANSMISSION ASSESSMENT 13
2.8 OPERATIONS ASSESSMENT 14

3. HISTORICAL DATA **15**

3.1 GENERATION MIX 16
3.2 DEMAND 20
3.2.1 Load Duration Curve *21*
3.2.2 Baseload *21*
3.2.3 Peaking *21*
3.2.4 Annual Load Factors *23*
3.2.5 Net Energy for Load *24*
3.2.6 Consumption *24*
3.3 RATE BASE CONSIDERATIONS 26

4. SPECIFICS OF FRCC & FPSC OPERATIONS **28**

4.1 PLANNING PROCESS 28
4.1.1 Transmission Plans *29*
4.2 EXTERNAL FACTORS AFFECTING THE PLANS 31
4.2.1 Electric Utility Restructuring *31*
4.2.2 Florida Energy 2020 Sturdy Commission *32*

Section **Title** **Page**

4.2.3 Natural Gas Availability *32*
4.3 RELIABILITY REQUIREMENTS 33
4.3.1 Reliability Criteria *33*
4.3.2 Role of Reliability Criteria in Resource Planning *34*
4.3.3 Commission Actions Affecting Reliability *36*
4.4 COMPETITIVE MARKET OVERSIGHT 38
4.5 RATEBASE/ECONOMIC REGULATION 39
4.5.1 Electric *40*

5. GENERATION IN FRCC 41

5.1 EXISTING UNITS IN FRCC 41
5.2 PLANNED GENERATION 52
5.3 GENERATION SELECTION 54
5.3.1 Natural Gas *55*
5.4 STATUS OF NEED DETERMINATIONS AND SITE CERTIFICATIONS 55
5.4.1 Utility-Owned Generating Units *56*
5.4.2 Merchant Plant *56*
5.4.3 Planned Utility-Owned Generating Units Requiring Certification *57*

6. FRCC DEMAND, ENERGY, AND FUEL PRICE PROJECTIONS 59

6.1 DEMAND AND ENERGY GROWTH PROJECTION 59
6.1.1 Baseload Demand Projections *61*
6.1.2 Peaking Demand Projections *61*
6.2 FUELS FORECAST FOR THE FRCC REGION 62
6.2.1 Natural Gas Prices *63*
6.2.2 Coal Price in South-Atlantic Region *65*
6.2.3 Oil Prices in the South Atlantic Region *66*

7. REFERENCES 68

List of Exhibits

Exhibit **Title** **Page**

EXHIBIT 1-1 FLORIDA ELECTRIC UTILITY INDUSTRY 2
EXHIBIT 1-2 THE GEMSET REGIONS 4
EXHIBIT 2-1 FLORIDA SOURCES OF ELECTRICITY BY OWNERSHIP 7
EXHIBIT 2-2 PRIVATELY OWNED UTILITIES 8
EXHIBIT 2-3 PUBLICLY OWNED UTILITIES 9
EXHIBIT 2-4 RURAL ELECTRIC COOPERATIVES 10
EXHIBIT 2-5 FRCC MEMBERS (CURRENT) 11
EXHIBIT 3-1 FRCC INSTALLED CAPACITY BY FUEL TYPE 15
EXHIBIT 3-2 INSTALLED NAMEPLATE CAPACITY BY OWNERSHIP IN FRCC 17
EXHIBIT 3-3 NET GENERATION IN FRCC BY TYPE OF OWNERSHIP 18
EXHIBIT 3-4 SUMMER NET CAPABILITY BY PRIME MOVER BY UTILITY IN FRCC 19
EXHIBIT 3-5 FRCC HOURLY DEMANDS 20
EXHIBIT 3-6 LOAD DURATION CURVE – FLORIDA CONSOLIDATED DEMANDS (MW) 21
EXHIBIT 3-7 MONTHLY PEAK DEMANDS BY UTILITY (2000) 22
EXHIBIT 3-8 ANNUAL LOAD FACTORS FOR FRCC REGION GENERATING UTILITIES 23
EXHIBIT 3-9 NET ENERGY FOR LOAD 24
EXHIBIT 3-10 CONSUMPTION BY CLASS OF SERVICE BY UTILITY 25
EXHIBIT 3-11 ALLOWED AND ACTUAL RATE OF RETURN 26
EXHIBIT 3-12 USES OF REVENUE 27
EXHIBIT 4-1 STATUATORY CRITERIA FOR REVIEWING TEN-YEAR SITE PLANS 29
EXHIBIT 4-2 PROPOSED MAJOR TRANSMISSSION LINES FOR FLORIDA (2000-2009) 30
EXHIBIT 4-3 RELIABILITY CRITERIA FOR REPORTING UTILITIES IN FLORIDA 35
EXHIBIT 4-4 UTILITY FORECASTS OF RESERVE MARGIN FOR THE STATE OF FLORIDA 36
EXHIBIT 4-5 ANNOUNCED COMBUSTION TURBINE MERCHANT PLANT ADDITIONS 38
EXHIBIT 5-1 FRCC UNIT DATA 42
EXHIBIT 5-2 PLANNED NEW GENERATING ADDITIONS, CHANGES IN CAPACITY AT EXISTING SITES, AND UNIT RETIREMENTS (2000-2009) 52
EXHIBIT 5-3 CHART SHOWING ELECTRIC UTILITY RESOURCE ADDITIONS (2000-2009) 53
EXHIBIT 5-4 ELECTRIC UTILITY RESOURCE MIX BY PLANT TYPE -- PRESENT AND FUTURE 54
EXHIBIT 5-5 PERCENT OF ENERGY GENERATION BY FUEL TYPE 55
EXHIBIT 6-1 FRCC SUMMER & WINTER PEAK DEMAND FORECAST 60
EXHIBIT 6-2 FORECASTED ENERGY INTERCHANGE & GENERATION BY FUEL TYPE 61
EXHIBIT 6-3 GEMSET BASELINE NATURAL GAS PRICE PROJECTION FOR THE SOUTH ATLANTIC REGION IN CURRENT YEAR U.S. DOLLARS COMPARED TO THE DATA SOURCES USED FOR THE PROJECTIONS 63
EXHIBIT 6-4 GEMSET BASELINE NATURAL GAS PRICE PROJECTION FOR THE SOUTH ATLANTIC REGION 64
EXHIBIT 6-5 GEMSET BASELINE COAL PRICE PROJECTION FOR THE SOUTH ATLANTIC REGION 65
EXHIBIT 6-6 # 2 OIL PRICE IN THE SOUTH ATLANTIC REGION 66
EXHIBIT 6-7 # 6 OIL IN THE SOUTH ATLANTIC REGION 67

ACKNOWLEDGMENTS

This report was prepared for **the United States Department of Energy's National Energy Technology Laboratory**. This work was completed under the support of DOE Contract Number DE-AM26-99FT40465. This was performed as Task 50901: "Market and Environmental Analysis." The authors wish to acknowledge the excellent cooperation of DOE NETL, particularly:

Patricia A. Rawls, *Project Manager*

Substantial amounts of supporting information came from the National Energy Technology Laboratory (NETL). The authors wish to acknowledge the excellent cooperation of DOE NETL, particularly:

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Abbreviations and Acronyms

Term	Meaning
AGC	automatic generation control
Bcf	billion cubic feet, that is: 10^9 cubic feet
CARL DATA	control area resource and load data submitted by Control Area Resources to the ISO
COE	in economic sections: the cost of electricity, the levelized busbar cost of electric production including amortized capital, operating, and maintenance costs
combustion turbine, CT	a synonym for gas turbine, used interchangeably
DCA	Department of Community Affairs
DEP	Department of Environmental Protection
DMNC	dependable maximum net capability
DNI	desired net interchange
DOE	United States Department of Energy
EFORd	demand equivalent forced outage rate
eGADS	electronic generator availability data system; an electronic data system allowing the posting of data regarding a generating unit's availability record
EIA	the Energy Information Administration of the DOE
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 1992
EPRI	the Electric Power Research Institute
EUE	expected unserved energy
FERC	Federal Energy Regulatory Commission
FGD	flue gas desulfurization, a sulfur emission control device
FGT	Florida Gas Transmission, a natural gas transportation pipeline company
FLOASIS	Peninsular Florida's OASIS
FPC	Florida Power, a Progress Energy company
FPL	Florida Power & Light Company
FPSC	Florida Public Service Commission
FRCC	Florida Reliability Coordinating Council

GADS..... generator availability data system; see "eGADS"

gas turbine, GT..... a synonym for combustion turbine, used interchangeably

GEMSET..... government energy market segment evaluation tool

GNP ..... gross national product

GT ..... gas turbine (a synonym for combustion turbine)

GTCC ..... natural gas fueled gas turbine combined cycle

HHV..... higher heating value of a fuel including the heat released if all of the water vapor in the combustion products were condensed

IOU ..... investor-owned utility

IPP ..... an independent power producer, an unregulated electric generating company

IRM..... installed reserve margin

IRP ..... integrated resource plan

ISO ..... independent system operator; a regulated body that dispatches all competitive electric generation on the high voltage transmission grid within its service region; they operate the grind, administer the power pools power transfers, select the lower cost generation bid into the pool according to the pool's operating rules, and maintains the integrity of the electric transmission grid

JEA ..... Jacksonville Electric Authority

KUA..... Kissimmee Utility Authority

LAK ..... City of Lakeland

LBMP ..... locational based marginal pricing

LCC ..... local control center

LHV ..... lower heating value of a fuel, the heat released if all of the water vapor in the combustion products remained as steam

LOC ..... lost opportunity cost

LOLP..... loss of load probability

MCR ..... maximum continuous rating

MVA ..... megavolt amperes

MVAR ..... megavolt-ampere-reactive

MWe ..... electrical megawatts

MWth..... thermal megawatts

NEL..... net energy for load

NERC..... National Electric Reliability Council

NETL..... the U.S. Department of Energy's National Energy Technology

NOPR..... notice of proposed rulemaking

NOx..... nitrogen oxides, types of air pollutant, mainly NO and NO_2

..... non-utility generator, a competitive, unregulated independent electric power producer

OASIS..... open-access same-time information system

OTAG..... Ozone Transport Assessment Group

OUC..... Orlando Utilities Commission

P.E...... licensed professional engineer

Parsons I&T, PI&T..... Parsons Infrastructure & Technology Group Inc., a global business unit of Parsons Corporation, an engineering/ construction company; part of the DOE team that prepared this report

PCD..... particulate emission control device

PSC ..... local state Public Service Commission

RACT..... reasonably available control technology (pollution control)

RAG..... reliability assessment group

RMCP..... regulation market clearing price

RTO ..... regional transmission organization

RWG..... resource working group

SCD..... security constrained dispatch

SOx ..... sulfur oxides, types of air pollutant, mainly SO_2

SWG..... stability working group

TCC ..... Transmission Congestion Contracts

TECO ..... Tampa Electric Company

TYSP..... ten-year site plan

VAR ..... volt-ampere-reactive

1. Summary of Florida Reliabilty Coordinating Council (FRCC)

1.1 Introduction

This section discusses the Florida State segmentation used in the DOE GEMSET market analysis model. Over 50 investor-owned, municipalial, and rural electric co-op utility systems serve this region. This NERC region, the Florida Reliability Coordinating Council (FRCC), is administered as a regulated market, and when this was written (October 2001), was the first in the GEMSET Series that deals with a regulated electric market. In a regulated market like Florida, new generation is added upon approval by a utility commission or regulatory body. New generation here is primarily determined by the need to meet "standards of reasonableness." The way power companies run their business in a regulated market is significantly different from that in a competitive utility region, where instead new generation options are approved by the ISO based on a first come-first serve basis; under a competitive market, obtaining an adequate financial return from investments in new generation holds greater risk than in a regulated market.

The Florida Public Service Commission (FPSC) regulates the FRCC region. The FPSC filed information on August 2001 with statistics indicating that in-State capacity and known purchases from neighboring electric systems would be sufficient to meet the capacity reserve through the end of the year 2010.

The FRCC is the tenth FERC region. The region was established in 1996 to ensure reliable electric power to the nation's fourth largest state population. This report discusses the responsibilities of FRCC, which is Florida's independent system operator (ISO), charged with ensuring a safe and reliable supply of electricity. As ISO, FRCC is responsible for the State's electric integrity, unit dispatch and reliability, and administering the pricing mechanisms for delivery of power.

In the FRCC region, most of the electric sales are from generation owned and operated by the utility serving that territory. When required, the FRCC steps in to ensure that the appropriate standards are met with mandated sales from other utilities when a shortage is experienced. The utility systems that existed in the FRCC region in year 2000 are summarized in Exhibit 1-1, segregated on the basis of the type of ownership and generating capability.

This is a report about how electric power is sold in the FRCC region. It describes the regulated electric market in FRCC's territory, and describes how the Florida regulated electric system operates now. The report also includes the FRCC's conjecture about how load might grow and be met by planned construction in the future.

Exhibit 1-1
Florida Electric Utility Industry

INVESTOR-OWNED SYSTEMS

Florida Power Corporation (FPC)
Florida Power & Light Company (FPL)
Florida Public Utilities (FPU)
Gulf Power Company (GPC)
Tampa Electric Company (TEC)

GENERATING MUNICIPAL SYSTEMS

Fort Pierce Utilities Authority (FTP)
Gainesville Regional Utilities (GRU)
Homestead, City of (HST)
Jacksonville Electric Authority (JEA)
Key West Utility Board, City of (KEY)
Kissimmee Utility Authority (KUA)
Lakeland, City of (LAK)
Lake Worth Utilities Authority (LWU)
New Smyrna Beach,
Utilities Commission of (NSB)
Ocala Electric Utility (OEU)
Orlando Utilities Commission (OUC)
Reedy Creek Utilities (RCU)
Tallahassee, City of (TAL)
Vero Beach, City of (VER)
Florida Municipal Power Agency (FMP)

GENERATING RURAL ELECTRIC COOPERATIVES

Florida Keys Electric Cooperative, Inc. (FKE)
Seminole Electric Cooperative, Inc. (SEC)
Alabama Electric Cooperative, Inc. (AEC)

GENERATING - OTHER

Southeastern Power Administration (SPA)
(Jim Woodruff Dam)

NONGENERATING MUNICIPAL SYSTEMS

Alachua, City of (ALA)
Bartow, City of (BAR)
Blountstown, City of (BLT)
Bushnell, City of (BUS)
Chattahoochee, City of (CHA)
Clewiston, City of (CLE)
Fort Meade, City of (FMD)
Green Cove Springs, City of (GCS)
Havana, City of (HAV)
Jacksonville Beach, City of (JBH)
Leesburg, City of (LEE)
Moore Haven, City of (MHN)
Mount Dora, City of (MTD)
Newberry, City of (NEW)
Quincy, City of (QUI)
St. Cloud, City of (STC)*
Starke, City of (STK)
Wauchula, City of (WAU)
Williston, City of (WIL)

NONGENERATING RURAL ELECTRIC COOPERATIVES

Central Florida Electric Cooperative, Inc. (CFC)
Choctawhatchee Electric Cooperative, Inc. (CHW)
Clay Electric Cooperative, Inc. (CEC)
Escambia River Electric Cooperative, Inc. (ESC)
Glades Electric Cooperative, Inc. (GEC)
Gulf Coast Electric Cooperative, Inc. (GCC)
Lee County Electric Cooperative, Inc. (LEC)
Okefenoke Rural Electric Membership Corp. (OKC)
Peace River Electric Cooperative, Inc. (PRC)
Sumter Electric Cooperative, Inc. (SMC)
Suwannee Valley Electric Cooperative, Inc. (SVC)
Talquin Electric Cooperative, Inc. (TAC)
Tri-County Electric Cooperative, Inc. (TRC)
West Florida Electric Cooperative, Inc. (WFC)
Withlacoochee River Electric Coop., Inc. (WRC)

*Units are on cold standby.

SOURCE: FRCC Aggregate Form 4.1

These data are dynamic, and what is reported here represents only a "snapshot" of information that existed a month prior to this report's issue date, October 2001. Periodically, the FRCC region will be revisited, and this report revised as time moves on.

This report includes the following discussions in subsequent sections:

- Section 2 describes the FRCC region.
- Section 3 describes historical information on generation, demands, the energy prices experienced by consumers, and the ratebase aspects related to the IOU's in the region.
- Section 4 discusses the specifics of the FRCC operations in terms of planning, reliability considerations and external factors affecting the FRCC.
- Section 5 presents the identified generation in the FRCC by the GEMSET Team, and the planned gneration for the future.
- Section 6 gives FRCC's forecasts and projections on demand growth, and on the fuel prices forecasted for the region by the GEMSET Team. Other reports in this GEMSET series then analyze these FRCC forecasts, and assess them in the context of several future scenarios of factors influencing demand, generation mix, and price.

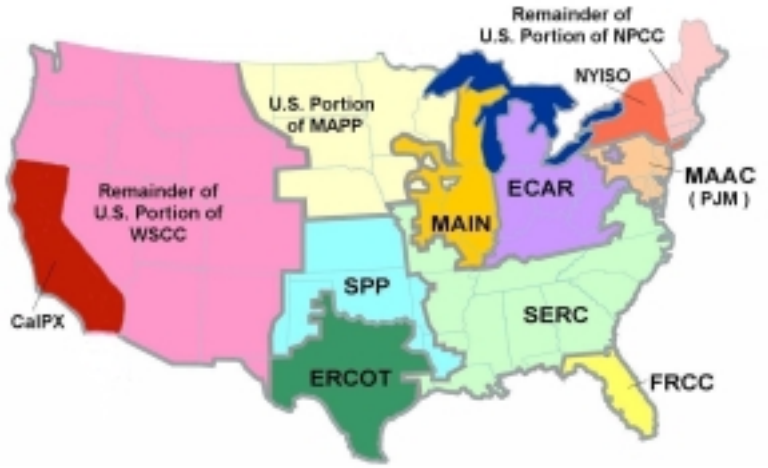
1.2 The Other GEMSET Regions

This report is one of a series describing the market conditions that exist, and that are forecast as part of the Department of Energy's (DOE) Government Energy Market Segment Evaluation Tool (GEMSET) project. Others in the series describe other regions, both competetive and regulated.

GEMSET forecasts for the FRCC and other areas will be presented in future reports in the series. Future reports on the FRCC will be issued where the GEMSET evaluation team makes reasoned conjecture of what might occur in the electric power market in this region in the future under a range of possible future energy prices and economic circumstances.

This is one of twelve regional assessments. The GEMSET regional characterizations generally follow the U.S. portions of the North American Reliablity Council (NERC) regions, excepting the Alaska Systems Coordinating Council (ASCC) and Hawaii, which are not modeled. Two of the NERC regions are broken into parts, one to seperate out California and the other to separate out New York. The twelve GEMSET regions, and their associated NERC region are as shown in Exhibit 1-2.

Exhibit 1-2 The GEMSET Regions



The twelve GEMSET regions are:

- **CALPX** - The California Power Exchange, a portion of the NERC's Western Systems Coordinating Council (WSCC).
- **East Central** - East Central Area Reliability Coordination Agreement (ECAR).
- **Florida** - Florida Reliability Coordinating Council (FRCC).
- **Mid-America** - Mid-America Interconnected Network (MAIN).
- **Mid-Continent** - the U.S. portion of the Mid-Continent Area Power Pool (MAPP).
- **Northeast** - the U.S. portion of NERC's Northeast Power Coordinating Council (NPCC), excluding New York
- **NYISO** - The New York ISO, a portion of NERC's Northeast Power Coordinating Council (NPCC).
- **PJM** - the Pennsylvania, New Jersey, Maryland Interconnect, which comprises the NERC's Mid Atlantic Area Council (MAAC).
- **Southeast** - Southeast Electric Reliability Council (SERC).
- **Southwest** - Southwest Power Pool (SPP).
- **Texas** - Electric Reliability Council of Texas (ERCOT).
- **Western** - the U.S. portion of the NERC's Western Systems Coordinating Council (WSCC), excluding California.

The reader should check with the DOE project manager, Patricia Rawls, to see if there is a more recent issue of this report, or to discuss any related information that might be available about the region, or about the GEMSET project data.

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You are reading Revision 1 of this report, issued in October 2001.

2. FRCC Region

2.1 Utility Ownership and Territory

The Florida Reliability Coordinating Council (FRCC) is the tenth FERC region. It was established in 1996. The FRCC was established to ensure reliable electric power to the nation's fourth largest state. This is a report about how electric power is sold in the region. It describes the regulated electric market in FRCC's territory. The report discusses the responsibilities of FRCC, which is Florida's independent system operator (ISO), charged with ensuring a safe and reliable supply of electricity. As ISO, FRCC is responsible for the State's electric integrity, unit dispatch and reliability, and administering the pricing mechanisms for delivery of power.

The FRCC encompasses almost all of the state of Florida. In Exhibit 2-1 [1], the sources of electricity by ownership types are depicted for ease of understanding. Following that, in Exhibit 2-2 [1], Exhibit 2-3 [1], and Exhibit 2-4 [1] the three ownership types indicate the areas served in the State of Florida. The Exhibits also indicate those utilities that have generation in their service territory.

Exhibit 2-1
Florida Sources of Electricity by Ownership

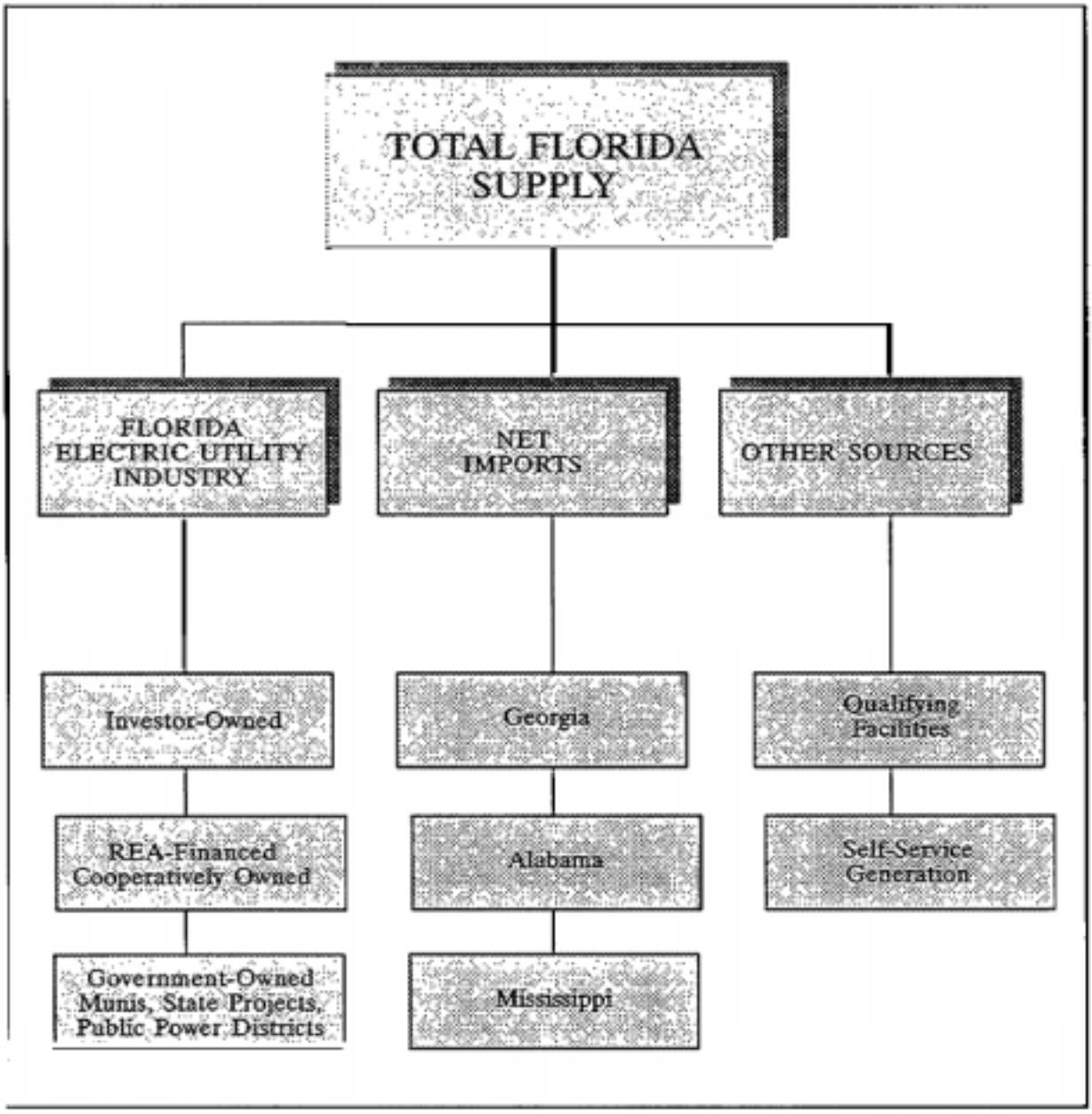


Exhibit 2-2
Privately Owned Utilities

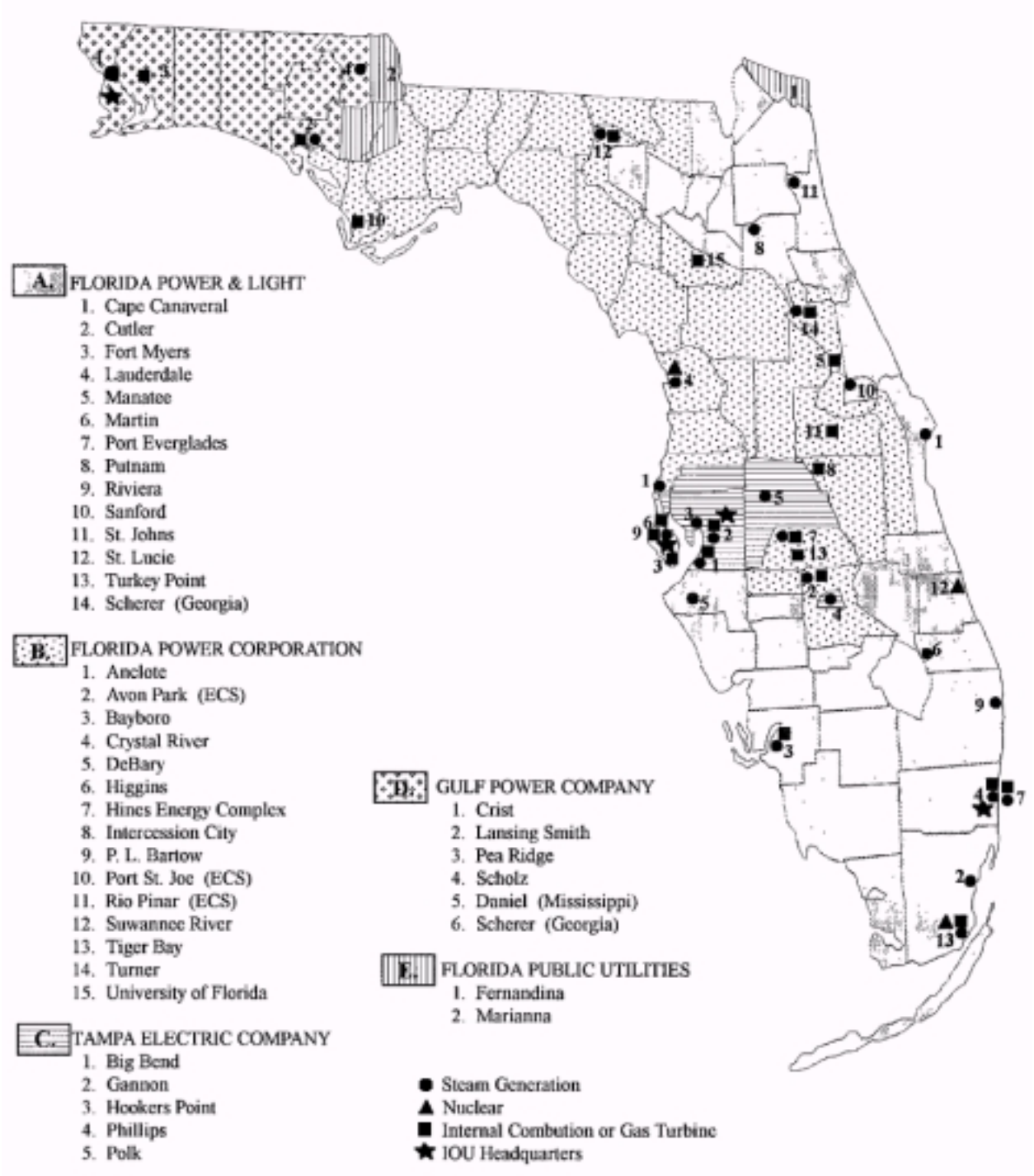


Exhibit 2-3
Publicly Owned Utilities

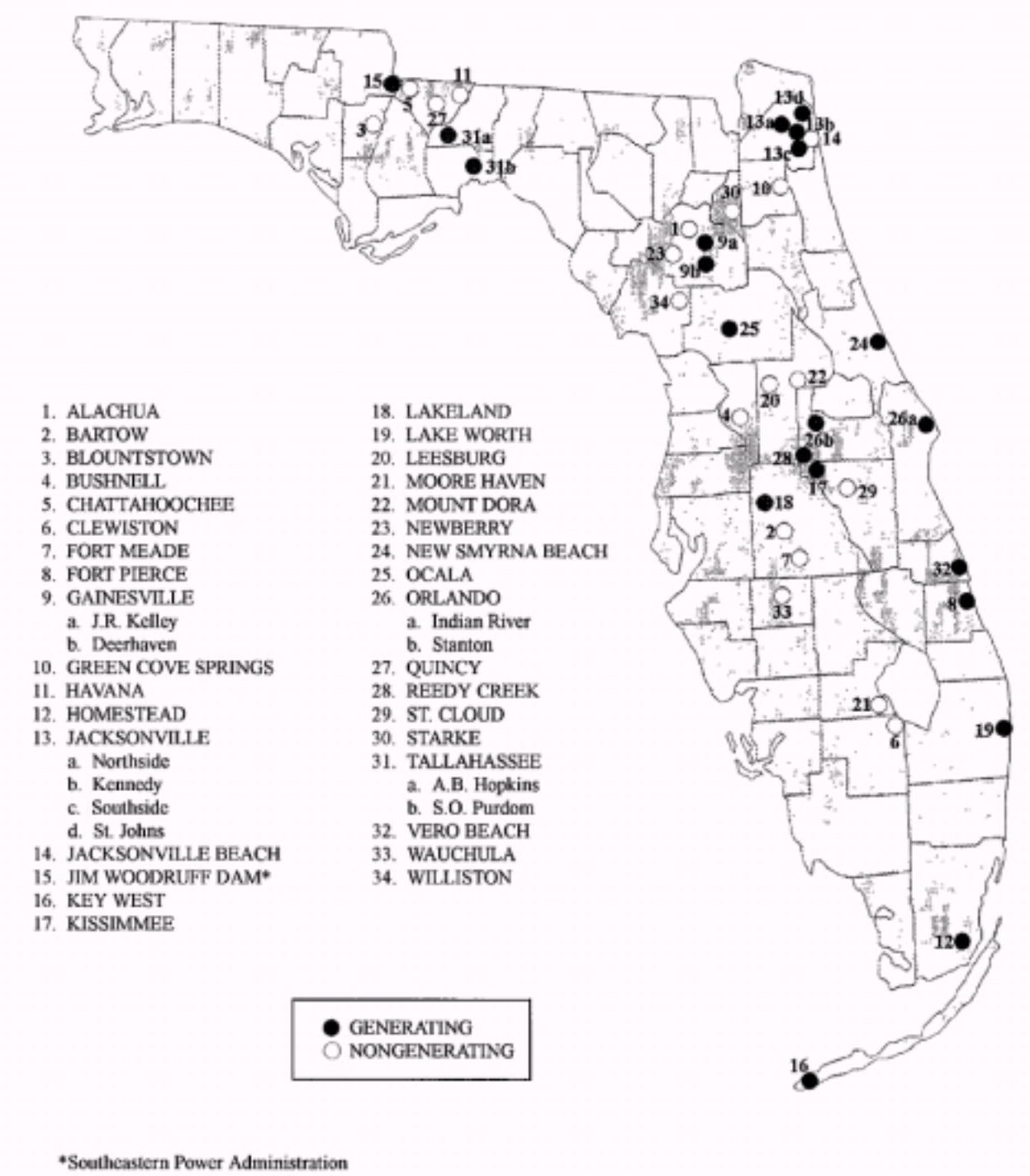
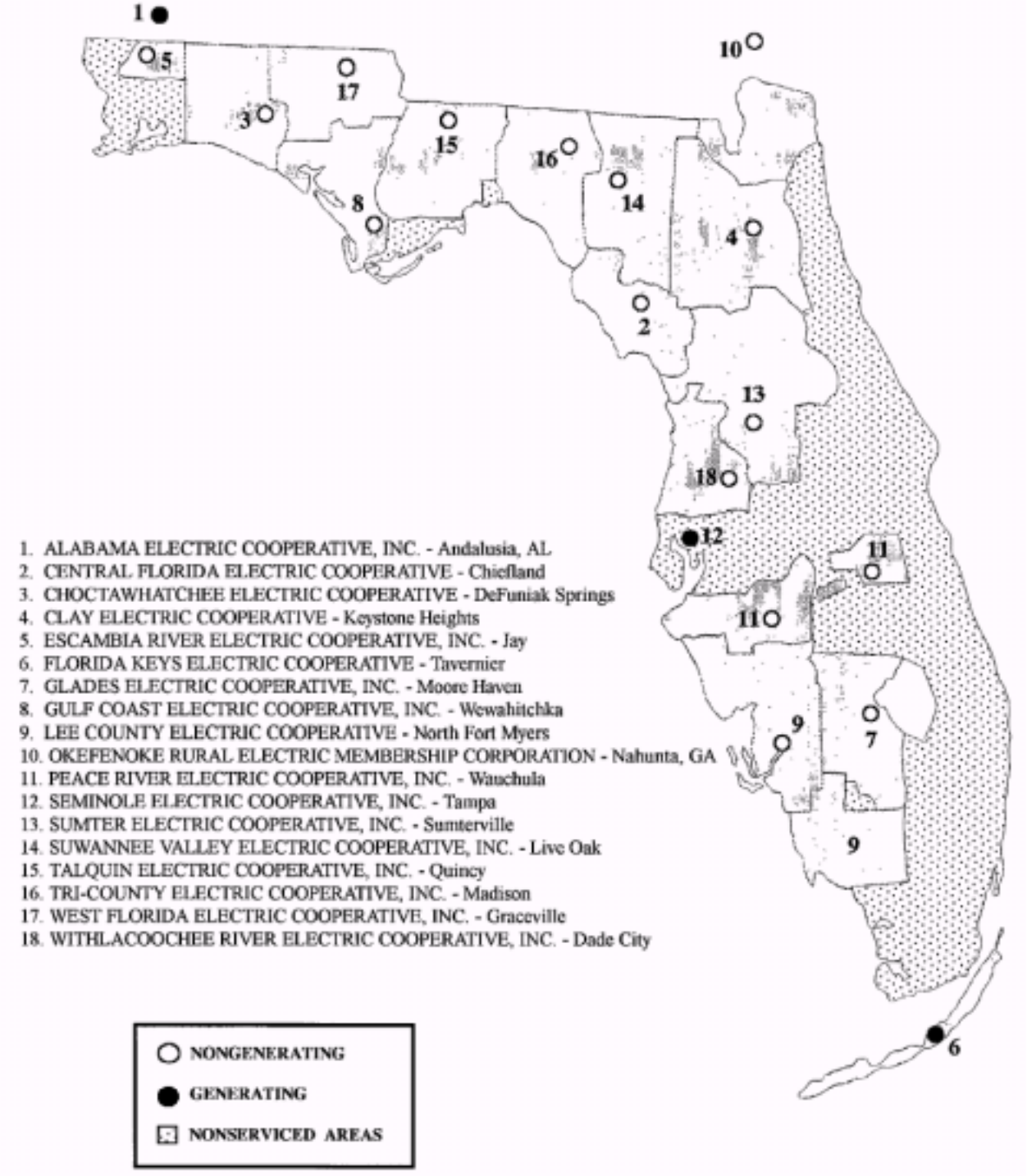


Exhibit 2-4
Rural Electric Cooperatives



The Florida Reliability Coordinating Council (FRCC) expects to have adequate generating capacity reserves and transmission system capability to meet the Regional reserve margin standard throughout the 2000–2009 assessment period.

FRCC ensures bulk electric system reliability in Florida. FRCC members regularly exchange information related to the reliability of the bulk electric system in both planning and operatingareas. As a NERC Region, FRCC developed a formal reliability assessment process by which a committeeand working group structure is utilized to annually review and assess reliability issues that either exist or havepotential for developing. The Reliability Assessment Group (RAG) administers this process and determines whatplanning and operating studies will be performed during the year to address those issues.

RAG is also the mechanism for collecting, assembling, and assessing the Regional EIA-411 Report, and theFRCC Load and Resource Plan, which is submitted annually to the Florida Public Service Commission.

2.2 Membership

The Florida Reliability Coordinating Council (FRCC) membership includes 34 members, of which 12 operate Control Areas in the Florida Peninsula. FRCC membership includes investor-owned utilities, cooperative systems, municipals, power marketers, and independent power producers. The Region covers about 50,000 square miles. Exhibit 2-5 [2] below delineates the current members of the FRCC.

Exhibit 2-5
FRCC Members (current)

AQUILA POWER	CITY OF HOMESTEAD
CITY OF LAKE WORTH UTILITIES	CITY OF LAKELAND
CITY OF TALLAHASSEE	CITY OF VERO BEACH
CONSTELLATION POWER SOURCE	DUKE ENERGY NORTH AMERICA
EDISON MISSION MARKETING & TRADING	EL PASO MERCHANT ENERGY
ENRON POWER MARKETING	ENTERGY-KOCH TRADING, LP
EXELON POWER TEAM	FLORIDA MUNICIPAL POWER AGENCY
FLORIDA POWER & LIGHT COMPANY	FLORIDA POWER CORPORATION
FT. PIERCE UTILITIES AUTHORITY	GAINESVILLE REGIONAL UTILITIES
GULF POWER COMPANY	INDIANTOWN COGENERATION, L.P.
JEA	KISSIMMEE UTILITY AUTHORITY
MIRANT AMERICAS DEVELOPMENT, INC.	MORGAN STANLEY CAPITAL GROUP, INC.
OCALA ELECTRIC UTILITY	ORLANDO UTILITIES COMMISSION
REEDY CREEK IMPROVEMENT DISTRICT	RELIANT ENERGY SERVICES
SEMINOLE ELECTRIC COOPERATIVE, INC.	SOUTHEASTERN POWER ADMINISTRATION
TAMPA ELECTRIC COMPANY	THE ENERGY AUTHORITY
UTILITIES COMMISSION, NEW SMYRNA BEACH, FL	UTILITY BOARD OF THE CITY OF KEY WEST
WILLIAMS ENERGY MARKETING & TRADING	

2.3 Organization

The activities of FRCC are directed by its Executive Board. The Board is comprised of the top level executive from each member of FRCC.

The technical activities of FRCC are carried out by its Engineering and Operating Committees. These Committees and their subcommittees comprise managerial and technical representatives from the members of FRCC. These representatives provide the expertise necessary for the planning, engineering and operating aspects of electric system reliability. Highly qualified and experienced representatives from the FRCC serve on the various NERC committee activities.

New and evolving market practices on electric system reliability are addressed by FRCC's Market Interface Committee. This Committee ensures that impacts of the electric industry's reliability standards are addressed from the commercial electricity market perspective.

2.4 Assessment Process

Within the FRCC Region, the members plan for facility additions on an individual basis. However, in addition to their own databases, they use data developed as a group under FRCC to assess the impact of neighboring systems and to adjust their plans accordingly. FRCC maintains power flow, stability, and short-circuit databases for the use of FRCC and its members.

Annually, the Reliability Assessment Group (RAG) reviews existing and expected short- and long-term conditions within the Region. RAG, which includes planning, marketing, and operating members, makes recommendations to the Engineering and Operating Committees on the studies that should be conducted by the working groups for the next year. These reliability studies encompass regional generation and transmission adequacy and security including import/export capabilities. Upon completion of the reliability studies, reports that include results, conclusions, and recommendations are published. RAG monitors actions taken to meet reliability criteria as a result of all study report recommendations. FRCC has also developed a compliance program to ensure member and regional compliance with FRCC and NERC standards.

2.5 Demand and Energy

FRCC is historically a winter-peaking region. However, because the region is geographically a sub-tropical area, a greater number of high-demand days normally occur in the summer. Therefore, it is possible for the annual peak to occur in the summer. The projected annual net peak demand and the energy growth rates for Florida for the next ten years are 2.3 and 2.1%, respectively.

2.6 Resource Assessment

The reserve margins for the ten-year assessment period (2000–2009) are at or above the FRCC reserve margin standard of 15%. The Resource Working Group (RWG), as part of its overall assessment of resource adequacy, determines reserve margin for both summer and winter based on system conditions at the time of the system seasonal peaks. These system peaks are assumed to be in the months of January and August for planning and assessment purposes. The reserve margin is determined by utilizing the net of the total peak demand (which includes the projected effects of conservation) minus the effects of exercising load management and interruptible loads during the peak demand periods.

FRCC members are projecting the net addition (i.e., additions less removals) of 11,418 MW of new capacity over the next ten years. Of this, 10,971 MW are projected to be natural gas-fired combined cycle.

The increased reliance on generation that requires a short build time, such as combined cycle and combustion turbine units that burn natural gas, is evident in the assessment. This technology gives the demand-serving entities considerable flexibility in reacting to a dynamic marketplace in today's changing and competitive environment. This changing environment will continue to place more emphasis on increased efficiency of existing units.

2.7 Transmission Assessment

The FRCC Stability Working Group (SWG) completed an assessment of outage performance out to year 2005 based on expected power import from the Southern Subregion of SERC to the FRCC, and found no problems. The SWG also completed and extensive investigation of delayed clearing faults. Only one potential violation of Category C performance requirements was identified. Although the overloads and low voltages can be eliminated by a series of operating procedures, modifications are being evaluated that would mitigate this potential violation.

In the past, the SWG studies identified a Central Florida/South Florida swing mode that was poorly damped for certain 230 kV and 500 kV circuit outages. The installation of power system stabilizers at key plants in 1998 improved damping of this swing mode to an acceptable degree in the near term. In the long term, some of the new units might require power system stabilizers.

The FRCC Transmission Working Group (TWG) completed a ten-year, intraregional study that comprehensively evaluated FRCC transmission system under normal and outage conditions for the years 2001, 2002, 2004, 2006, and 2008 based on the expected power import from the Southern Sub-region of SERC to the FRCC. The results of this study indicate that any thermal or voltage violations can be successfully managed in the short term by operator intervention including generation redispatch, sectionalizing, reactive device control, and transformer tap adjustments. In the long term, violations of criteria can be resolved by planned transmission projects where there is adequate time to monitor trends and construct required network upgrades.

Individual members plan to construct 416 miles of 230 kV during the 2000–2009 assessment period.

The Florida/Southern Planning Task Force performs interregional transmission studies as required to evaluate the transfer capability between the Southern Subregion of SERC and FRCC.

2.8 Operations Assessment

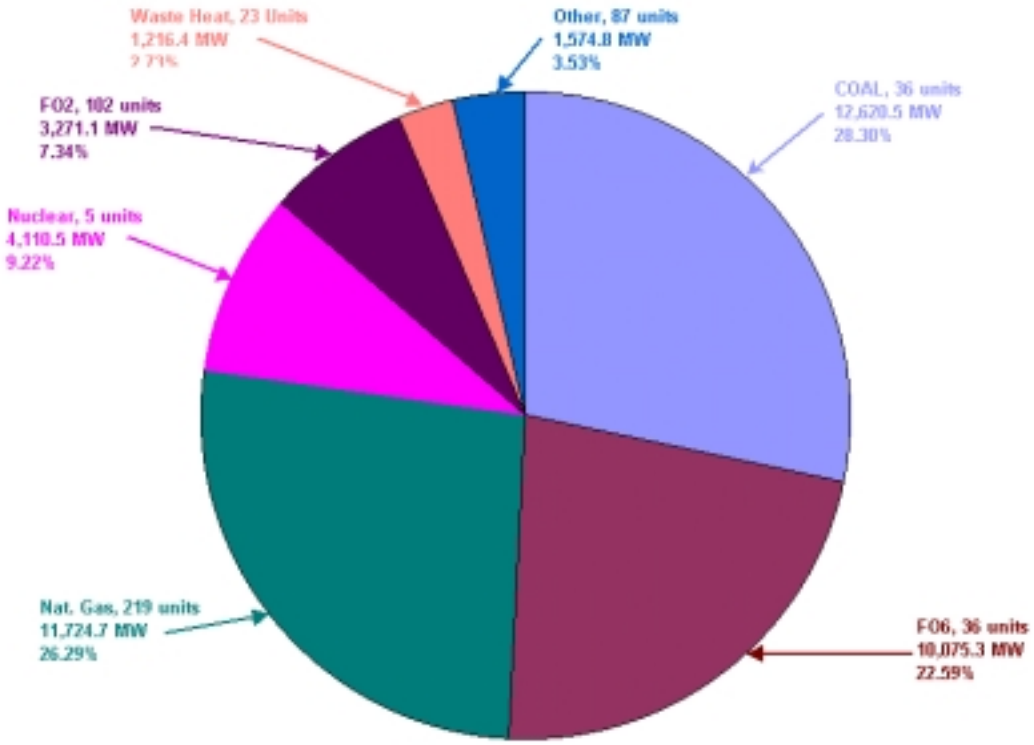
FRCC has both a Security Coordinator and an Operations Planning Coordinator who monitor system conditions and evaluate near-term operating conditions. FRCC has a detailed security process that gives the Security Coordinator the authority to direct actions to ensure the real-time security of the bulk electric system in the region.

The Security Coordinator uses a region-wide security analysis program and a "look-ahead" program to evaluate current system conditions. These programs use databases that are updated with data from operating members on an as-needed basis throughout the day. The procedures in the security process are evaluated and updated on an ongoing basis to ensure regional reliability, conformance to FRCC procedures, and adherence to NERC standards and policies.

3. Historical Data

These data represent the latest available data as of August 2001, when this section was last revised. This historical information serves as a basis for understanding the exisiting mix of generation, the demand and energy requirements for each of the utilities and the FRCC as a whole, and the financial implications of rate base levels.

Exhibit 3-1
FRCC Installed Capacity by Fuel Type



3.1 Generation Mix

Exhibit 3-1 provides the mix of generation by fuel type. As shown, approximately 75 percent of the total generation in FRCC is owned and operated by the IOUs. Generation capability is split as follows:

- Over 60 percent of the total generation is from conventional steam plants fired by coal, gas, and oil;
- 25 percent is supplied by combustion turbines and combined cycles; and,
- A little over 7 percent is supplied by nuclear plants.

In meeting the demands of the system, the nuclear and coal are primarily used for baseload operations while the oil and gas units swing between intermediat load and peaking.

Within the FRCC region there are currently more than 500 operational electric generating units representing approximately 44,000 megawatts of summer capacity. Exhibit 3-2 [1] gives a summary of the ownership of the generating units over the past 15 years between investor-owned utilities (IOU) and municipals, while Exhibit 3-3 [1] provides the net generation. Exhibit 3-4 [1] specific details of the capability ownership by the utilities. A complete listing of all identified operating units in FRCC is provided in Section 5, later in this Report.

Exhibit 3-2
Installed Nameplate Capacity by Ownership in FRCC

YEAR	TOTAL FOR STATE	INVESTOR-OWNED		MUNICIPALS, RURAL ELECTRIC COOPERATIVES, AND OTHER	
		QUANTITY	PERCENT OF TOTAL	QUANTITY	PERCENT OF TOTAL
1986	34,412	27,502	79.92	6,910	20.08
1987	35,788	27,860	77.85	7,928	22.15
1988	36,544	28,200	77.17	8,344	22.83
1989	36,523	28,162	77.11	8,361	22.89
1990	37,532	27,658	73.69	9,874	26.31
1991	36,980	28,066	75.90	8,914	24.10
1992	36,988	27,501	74.35	9,487	25.65
1993	38,039	28,420	74.71	9,618	25.29
1994	39,084	29,529	75.55	9,555	24.45
1995	38,954	29,231	75.04	9,723	24.96
1996	40,334	30,337	75.22	9,996	24.78
1997	42,610	33,034	77.53	9,576	22.47
1998	42,363	32,094	75.76	10,270	24.24
1999	43,037	32,969	76.61	10,068	23.39
2000*	39,798	30,535	76.72	9,263	23.28

*In 2000 and onward, summer net capability is used instead of nameplate capacity as a more conservative measure of capability. Winter net capability averages approximately 5% higher than summer net capability.

SOURCES: 1985-1999 EIA Form 759
1985-1999 FPSC Form AFAD (RRR)-2
2000 Regional Load and Resource Plan, FRCC

Exhibit 3-3
Net Generation in FRCC by Type of Ownership

1986-2000

YEAR	TOTAL FOR STATE (GWH)	INVESTOR-OWNED QUANTITY (GWH)	INVESTOR-OWNED PERCENT OF TOTAL	OTHERS** QUANTITY (GWH)	OTHERS** PERCENT OF TOTAL
1986	108,465	89,952	82 9	17,862	16.5
1987	108,597	89,075	82.0	19,522	18 0
1988	124,062	98,952	79.8	25,103	20.2
1989	127,142	98,103	77.2	29,039	22 8
1990	125,468	96,491	76.9	28,976	23.1
1991	134,443	101,821	75 7	32,622	24 3
1992	140,060	104,776	74.8	35,284	25.2
1993	149,388	112,251	75.1	37,137	24.9
1994	152,779	117,134	76.7	35,645	23.3
1995	159,156	121,496	76.3	37,660	23.7
1996	157,946	120,267	76.1	37,679	23.9
1997	161,961	122,264	75.5	39,697	24.5
1998	181,147	139,909	77.2	41,238	22.8
1999	178,773	NR	-	NR	-
2000	178,253	NR	-	NR	-

Exhibit 3-4
Summer Net Capability by Prime Mover by Utility in FRCC

COMPANY NAME	HYDRO-ELECTRIC	CONVEN-TIONAL STEAM	NUCLEAR STEAM	COMBUSTION TURBINE	INTERNAL COMBUSTION	COMBINED CYCLE*	OTHER	UTILITY TOTAL
Florida Power & Light Company		9,984	2,225	1,896	12	2,747		16,864
Florida Power Corporation		3,882	774	2,464		689		7,809
Gulf Power Company		2,205		44				2,249
Tampa Electric Company		3,023		306	34	250		3,613
Florida Keys Electric Co-op					23			23
Florida Municipal Power Agency		244	74	160		20		498
Fort Pierce		82			6	31		119
Gainesville Regional Utilities		334	11	153				498
Homestead					53			53
Jacksonville		2,178		523	3			2,704
Key West				20	32			52
Kissimmee		27		26	16	100		169
Lakeland		469		37	6	102		614
Lake Worth		29		26	10	30		95
New Smyrna Beach		4			20			24
Ocala			11					11
Orlando		758	64	206				1,028
Reedy Creek					5	34	4	43
Seminole		1,316	15					1,331
St. Cloud					21			21
Tallahassee	11	362		56		232		661
Vero Beach		102				48		150
Alabama Co-op	8	665		343		43	110	1,169
Total State of Florida Utility	19	25,664	3,174	6,260	241	4,326	114	39,798
Total Nonutility								2,811
Total State of Florida								**42,609**

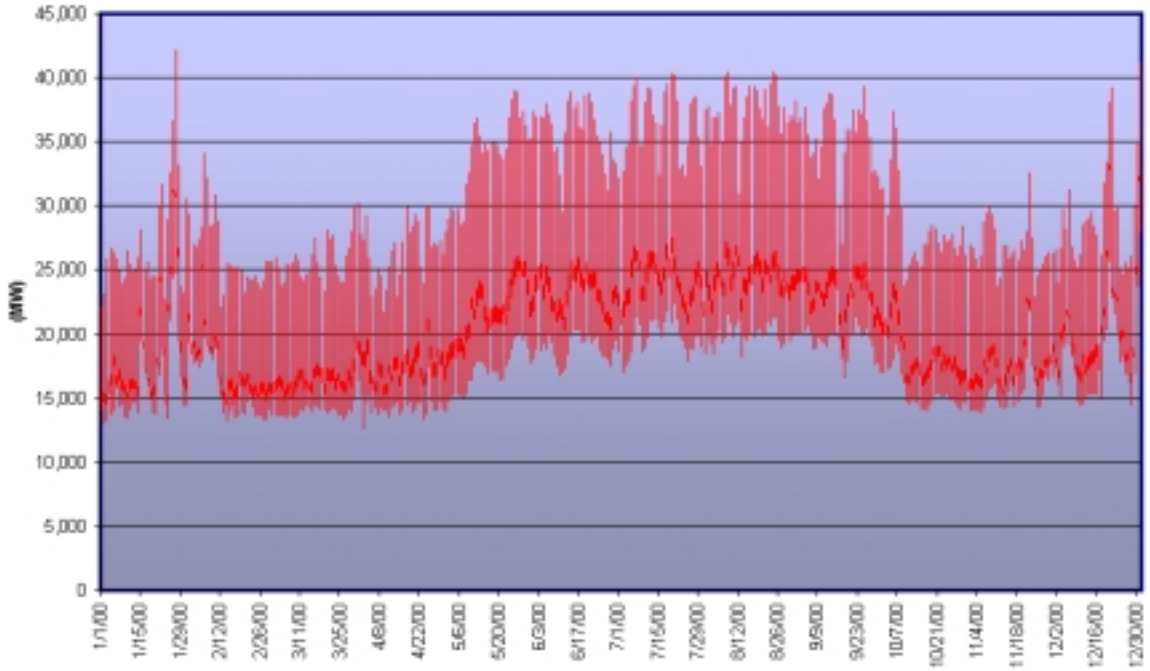
*Includes steam part of combined cycle.

SOURCE: Regional Load and Resource Plan, FRCC

3.2 Demand

Exhibit 3-5 gives the year 2000 hourly loads for the FRCC region. This is the latest available data on hourly loads from the utilities and the regulatory bodies. There are several peaks during the winter months, but generally the peaks occur during the months of July through September. Later, in Section 3.2.3, "Peaking," monthly peak demands for each utility are presented.

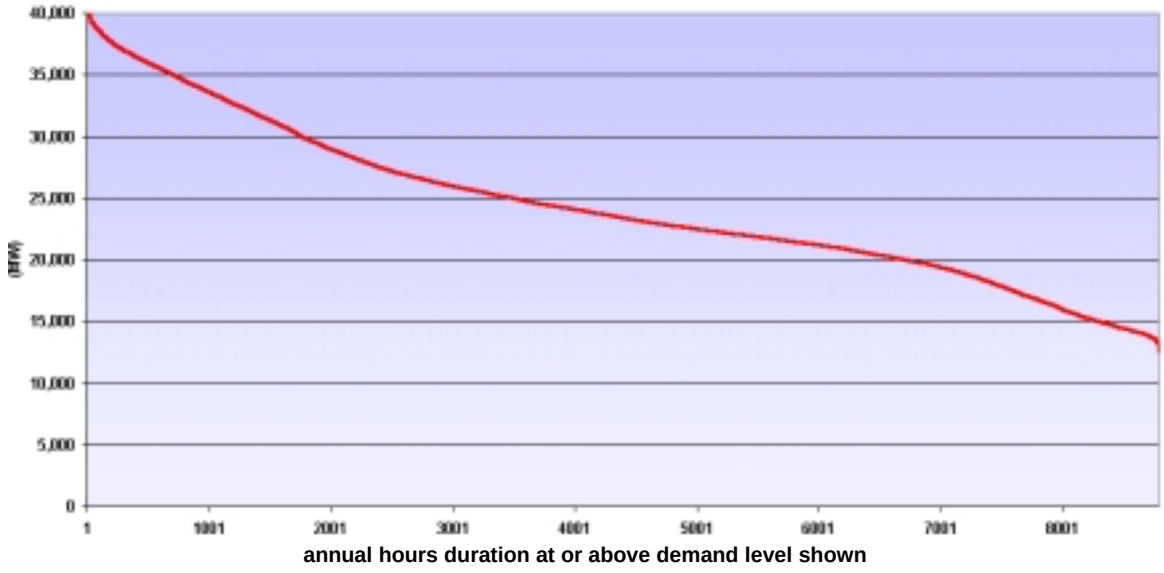
Exhibit 3-5 FRCC Hourly Demands



3.2.1 Load Duration Curve

The year 2000 load duration curve for the FRCC is presented in Exhibit 3-6 below.

Exhibit 3-6 Load Duration Curve – Florida Consolidated Demands (MW)



3.2.2 Baseload

As shown by the data listing the various units, there is over 16,000 MW of nuclear and coal-fired generation on the FRCC system, and almost 25,000 MW of gas and oil fired generation. The remaining 6,000 MW consists of a variety of fuels including hydro, wastes and other types of fuels used primarily as energy producers, including waste heat from cogeneration and other industrial applications. Given that the minimum load on the system is about 13,500 MW, the typical daily requirement for baseload power will range around 18,000 MW to 22,000 MW, and should be covered by the four primary types of generation.

3.2.3 Peaking

For the last 12 months, Exhibit 3-7 [1] shows the peak demands for the period January 2000 through December 2000. These are the latest data that were available from the various utilities and the Florida Public Service Commission in as of October 2001, when this was written.

Exhibit 3-7 Monthly Peak Demands by Utility (2000)

UTILITIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARLY PEAK
INVESTOR-OWNED SYSTEMS													
Florida Power & Light Company	17,057	12,755	13,411	14,959	16,856	16,979	17,778	17,808	17,701	16,920	13,804	14,858	17,808
Florida Power Corporation	8,548	7,409	5,451	8,421	7,430	7,442	7,607	7,717	7,247	6,926	6,828	8,421	8,548
Florida Public Utilities Company	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Gulf Power Company	1,903	1,638	1,350	1,435	1,993	2,051	2,281	2,250	2,043	1,833	1,785	2,152	2,281
Tampa Electric Company	3,504	2,861	2,630	2,521	3,040	3,127	3,055	3,167	3,233	2,939	2,623	3,328	3,504
GENERATING MUNICIPAL SYSTEMS													
Fort Pierce	119	92	91	95	106	110	116	110	109	101	86	112	119
Gainesville	337	288	238	268	376	380	425	386	369	354	295	345	425
Homestead	50	49	58	56	58	62	67	64	66	66	58	54	67
Jacksonville	2,478	2,141	1,461	1,599	2,268	2,214	2,380	2,304	2,178	2,048	2,201	2,614	2,614
Key West	94	94	108	109	120	120	128	125	121	116	105	101	128
Kissimmee	221	184	169	170	230	238	250	238	234	169	214	244	250
Lake Worth	78	54	64	67	75	78	78	80	85	75	62	69	85
Lakeland	610	508	407	416	504	532	552	539	528	510	476	597	610
New Smyrna Beach	87	72	51	53	77	72	83	78	75	63	59	88	88
Orlando	968	739	744	773	977	981	1,058	990	976	906	782	987	1,058
Reedy Creek	145	150	162	159	177	178	188	180	174	169	157	155	188
Starke	15	11	9	9	14	12	16	15	14	13	8	13	16
Tallahassee	515	464	346	383	510	515	569	549	503	474	442	508	569
Vero Beach	175	126	120	125	134	135	144	142	141	126	112	161	175
NONGENERATING MUNICIPAL SYSTEMS													
Alachua	16	14	11	10	14	15	17	16	14	14	16	17	17
Bartow	60	56	43	44	55	58	58	57	55	53	48	62	62
Blountstown	6	6	4	6	7	8	9	8	7	7	6	7	9
Bushnell	6	5	4	4	5	5	5	5	5	5	5	6	6
Chattahoochee	6	7	6	6	8	9	9	10	10	8	7	7	10
Clewiston	21	16	22	21	25	24	24	26	26	24	23	26	26
Fort Meade	12	10	7	7	9	9	10	9	9	8	8	11	12
Green Cove Springs	27	24	17	16	23	22	23	0	22	19	17	27	27
Havana	4	5	4	3	5	5	6	6	6	5	4	5	6
NONGENERATING MUNICIPAL SYSTEMS													
Jacksonville Beach	183	154	88	105	155	149	163	162	147	131	140	196	196
Leesburg	96	76	73	74	99	98	94	96	92	89	82	100	100
Moore Haven	4	3	2	2	3	3	3	3	3	3	3	4	4
Mount Dora	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Newberry	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ocala	248	207	175	194	254	259	279	258	252	235	217	253	279
Quincy	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Wauchula	14	10	10	9	12	13	12	12	13	12	10	12	14
Williston	4	5	4	4	5	7	7	7	7	7	5	5	7
RURAL ELECTRIC COOPERATIVES													
Central Florida	103	100	66	60	92	92	92	90	85	79	99	120	120
Choctawhatchee	129	121	92	86	121	123	138	132	120	99	124	155	155
Clay	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Escambia River	38	34	26	25	33	34	39	38	38	33	37	45	45
Florida Keys	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Glades	69	60	53	54	65	62	55	59	54	53	57	73	73
Gulf Coast	69	64	53	52	59	60	66	63	58	50	68	81	81
Lee County	657	558	264	405	498	499	469	501	501	492	454	693	693
Peace River	101	88	50	60	80	84	73	79	77	77	78	110	110
Seminole	3,209	2,948	1,661	1,854	2,594	2,556	2,625	2,653	2,497	2,361	2,750	3,436	3,436
Sumter	454	424	228	266	378	368	376	364	354	341	414	506	506
Suwanee Valley	67	72	51	48	66	66	77	76	74	64	53	72	77
Talquin	226	224	158	116	181	200	207	193	180	155	220	251	251
Tri-County	46	52	38	36	43	49	53	53	52	45	39	52	53
West Florida	95	91	67	62	81	85	93	91	79	66	91	111	111
Withlacoochee River	817	766	377	373	541	545	570	575	595	589	659	846	846
Okefenoke	19	18	13	12	16	16	18	17	16	14	17	29	29

NR = Not reported
NA = Not applicable

As shown, there are periods of peaks in the summer months, followed by relatively stable periods of daily spikes at reasonable levels during the other months of the year.

3.2.4 Annual Load Factors

For each generating utility in FRCC, an annual load factor for 2000 has been calculated and is shown in Exhibit 3-8.[1]

Exhibit 3-8
Annual Load Factors for FRCC Region Generating Utilities

GENERATING UTILITIES	NET ENERGY FOR LOAD (GIGAWATT-HOURS)	PEAK LOAD (MEGAWATTS)	LOAD FACTOR (PERCENTAGE)
Florida Power & Light	95,989	17,808	61.5
Florida Power Corporation	41,242	8,548	55.1
Gulf Power Company	11,094	2,281	55.5
Tampa Electric Company	17,642	3,504	57.5
Florida Keys Electric	NR	NR	NR
Fort Pierce	602	119	57.7
Gainesville	1,868	425	50.2
Homestead	345	67	58.7
Jacksonville	12,158	2,614	53.1
Key West	712	128	63.5
Kissimmee	1,116	250	51.0
Lake Worth	1	85	0.1
Lakeland	2,709	610	50.7
New Smyrna Beach	363	88	47.0
Orlando	4,900	1,058	52.9
Reedy Creek	1,188	188	72.1
Seminole Electric	13,092	3,436	43.5
Starke	75	16	53.5
Tallahassee	2,596	569	52.1
Vero Beach	709	175	46.2

3.2.5 Net Energy for Load

Exhibit 3-9 [1] gives the last 15 years of energy requirements in the FRCC. Only in the last two years has the FPSC been collecting data on energy generated by sources other than the utilities.

Exhibit 3-9
Net Energy for Load

	COAL		OIL		NATURAL GAS		NUCLEAR		HYDRO			OTHER SOURCES		
YEAR	GWH	PERCENT	GWH	PERCENT	GWH	PERCENT	GWH	PERCENT	GWH	PERCENT	SUBTOTAL	NUG	OTHER**	TOTAL
1986	42,857	38.5	28,951	26.7	14,409	13.3	22,036	20.3	212	0.2	108,465			
1987	53,390	49.2	19,886	18.3	16,238	15.0	19,049	17.5	32	0.0	108,595			
1988	56,614	45.6	26,448	21.3	14,592	11.8	26,198	21.1	210	0.2	124,062			
1989	63,744	50.1	26,150	20.6	17,417	13.7	19,814	15.6	17	0.2	127,142			
1990	62,110	49.5	26,617	21.2	15,920	12.7	20,572	16.4	249	0.2	125,468			
1991	66,037	49.1	31,844	23.7	17,472	13.0	19,062	14.2	28	0.0	134,443			
1992	58,836	42.0	38,733	27.7	17,744	12.7	24,693	17.6	54	0.0	140,060			
1993	61,000	40.8	44,870	30.0	18,064	12.1	25,403	17.0	51	0.0	149,388			
1994	62,511	40.9	43,553	28.5	20,420	13.4	26,216	17.2	80	0.1	152,779			
1995	65,714	41.3	32,185	20.2	33,483	21.0	27,726	17.4	47	0.0	159,156			
1996	70,008	44.3	33,060	20.9	30,496	19.3	24,333	15.4	49	0.0	157,946			
1997	74,219	45.8	32,561	20.1	33,123	20.5	22,000	13.6	58	0.0	161,961			
1998	73,184	40.4	46,430	25.6	31,319	17.3	30,168	16.7	46	0.0	181,147			
1999	78,413	43.9	33,550	18.8	34,964	19.6	31,772	17.8	74	0.0	178,773	12,820	8,781	200,374
2000	76,050	42.7	32,763	18.4	36,878	20.7	32,555	18.3	7	0.0	178,253	12,461	18,372	209,086

3.2.6 Consumption

For the year 2000, Exhibit 3-10 [1] shows the consumption by the various classes of service for most of the utilities in the region. Surprisingly, the residential class is the largest class of service in the region, with almost 48% of the total requirements. Next largest is the commercial class, followed by the industrial class. This is not typical of most utilities in the United States.

Exhibit 3-10
Consumption by Class of Service by Utility

CONSUMPTION BY CLASS OF SERVICE BY UTILITY
(MEGAWATT-HOURS)
2000

UTILITIES	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER	TOTAL
Florida Power & Light	46,319,806	37,001,162	3,859,197	789,308	87,969,473
Florida Power Corporation	17,115,690	10,813,407	4,248,685	2,654,150	34,831,932
Florida Public Utilities	305,401	200,181	228,564	12,303	746,849
Gulf Power Company	4,790,038	3,379,449	1,928,749	18,730	10,112,966
Tampa Electric Company	7,368,852	5,541,100	2,389,895	1,338,013	16,637,860
Alachua	29,091	38,871	0	0	67,962
Bartow	121,686	23,173	118,459	9,771	273,089
Bloxomtown	11,723	23,896	0	1,875	37,494
Bushnell	7,649	6,696	8,017	0	22,362
Central Florida Co-op	304,583	35,196	30,235	28,433	398,447
Chattahoochee	12,953	4,891	25,956	1,385	45,184
Choctawhatchee Co-op	416,699	60,844	67,399	125	545,067
Clay Co-op	1,865,989	206,627	405,993	3,971	2,482,580
Clewiston	50,927	6,658	60,797	1,011	119,393
Escambia River Co-op	119,890	19,104	18,691	719	158,404
Florida Keys Co-op	NR	NR	NR	NR	NR
Fort Meade	28,778	8,591	526	3,170	41,065
Fort Pierce	226,546	336,005	0	9,765	572,416
Gainesville	787,923	193,506	651,974	22,284	1,655,687
Glades Co-op	134,094	25,823	72,100	68,179	300,197
Green Cove Springs	32,836	9,919	62,065	2,520	107,341
Gulf Coast Co-op	22,794	1,272	2,427	242	26,735
Havana	12,405	9,666	0	1,232	23,303
Homestead	161,001	27,614	115,449	14,860	318,923
Jacksonville	4,701,593	3,504,777	2,779,333	601,753	11,587,856
Jacksonville Beach	421,822	80,649	159,412	17,184	678,867
Key West	296,498	66,588	293,075	5,429	663,591
Kissimmee	536,388	160,614	359,111	9,241	1,065,354
Lake Worth	211,455	71,462	73,077	12,459	368,453
Lakeland	1,274,494	219,771	944,762	103,844	2,542,870
Lee County Co-op	1,751,223	155,718	722,594	11,145	2,620,680
Leesburg	194,256	60,345	179,830	5,180	439,611
Moore Haven	9,583	1,862	5,063	289	16,797
Mount Dora	NR	NR	NR	NR	NR
New Smyrna Beach	213,683	46,919	77,148	2,881	340,632
Newberry	NR	NR	NR	NR	NR
Ocala	482,019	124,452	576,448	31,643	1,214,572
Okefenoke*	123,942	8,914	5,505	250	138,611
Orlando	1,582,559	292,890	2,704,986	455,451	5,035,886
Peace River Co-op	263,987	47,921	72,276	563	384,846
Quincy	NR	NR	NR	NR	NR
Reedy Creek	144	13,794	1,083,544	4,431	1,101,913
Seminole Co-op	0	0	0	0	0
Starke	23,107	37,792	0	0	60,899
Sumter Co-op	1,239,758	137,812	300,757	1,089	1,679,416
Suwannee Valley Co-op	261,484	28,232	21,850	294	311,861
Tallahassee	559,888	181,439	1,121,237	178,575	2,441,138
Talquin Co-op	647,452	58,241	147,576	6,247	859,516
Tri-County Co-op	143,689	23,173	35,484	1,551	203,897
Vero Beach	331,998	89,742	231,259	24,161	677,162
Wauchula	25,746	18,065	14,373	3,904	62,088
West Florida Co-op	295,377	27,208	4,910	20,024	347,519
Wilhelmina	10,911	4,159	11,769	3,105	29,944
Withlacoochee Co-op	1,995,309	198,455	589,711	12,527	2,796,003
Respondent Total**	98,226,220	65,634,458	26,808,767	6,495,269	195,164,713
FRCC State Total					194,238,030

3.3 Rate Base Considerations

For the Investor Owned Utilities (IOU's) in Florida, their rates are established through a process whereby their investment in generation, transmission, and distribution, plus ancillary expenditures necessary to supply electricity to their customers, is used to develop what is called ratebase. Their calculated ratebase serves as the basis for determining how much revenue they need to generate each year from their rates to the various consumers. These complex calculations to establish ratebase are conducted through rate hearings and other studies that comprise a Cost-of-Service assessment.

Below in Exhibit 3-11 [1] are the allowed rate of returns for each of the IOU's in Florida (except for Florida Public Utilities which has two small service territories in northern Florida). A rate-base average of the adjusted rate of return is about 8.79 percent in year 2000, a number that could be used to as representative of the allowed return in FRCC.

Exhibit 3-11
Allowed and Actual Rate of Return

1996-2000

	1996	CHANGE (%) 1996-1997	1997	CHANGE (%) 1997-1998	1998	CHANGE (%) 1998-1999	1999	CHANGE (%) 1999-2000	2000
AVERAGE PER BOOK RATE OF RETURN									
Florida Power & Light	9.32 %	5.04	9.79 %	3.37	10.12 %	(3.66)	9.75 %	6.46	10.38 %
Florida Power Corporation	9.15	(31.58)	6.26	36.26	8.53	6.10	9.05	(14.25)	7.76
Tampa Electric Company	8.60	1.28	8.71	(8.92)	8.63	1.62	8.77	4.22	9.14
Gulf Power Company	7.54	2.92	7.76	5.15	8.16	(1.59)	8.03	1.99	8.19
AVERAGE ADJUSTED RATE OF RETURN									
Florida Power & Light	8.79 %	3.30	9.08 %	0.55	9.13 %	(5.59)	8.62 %	1.86	8.78 %
Florida Power Corporation	8.90	(31.24)	6.12	41.67	8.67	4.15	9.03	2.88	9.29
Tampa Electric Company	8.62	1.39	8.74	(8.92)	8.66	(4.97)	8.23	4.74	8.62
Gulf Power Company	7.93	(0.38)	7.90	1.65	8.03	0.87	8.10	0.37	8.13
REQUIRED RATES OF RETURN*									
Florida Power & Light	8.74 %	2.06	8.92 %	(1.12)	8.82 %	(8.62)	8.06 %	0.87	8.13 %
Florida Power Corporation	8.85	(4.18)	8.48	(1.06)	8.39	3.46	8.68	2.53	8.90
Tampa Electric Company	8.31	(0.72)	8.25	(0.48)	8.21	(0.97)	8.13	2.71	8.35
Gulf Power Company	7.67	(0.26)	7.65	(0.26)	7.63	(0.92)	7.56	0.79	7.62
ADJUSTED JURISDICTIONAL YEAR-END RATE BASE (MILLIONS)									
Florida Power & Light	$9,281	(2.38)	$9,059	(3.72)	$8,722	0.47	$8,763	4.77	$9,181
Florida Power Corporation	3,291	6.18	3,494	5.83	3,698	(6.62)	3,453	3.34	3,568
Tampa Electric Company	2,115	(1.53)	2,082	4.07	2,167	0.63	2,181	(2.13)	2,134
Gulf Power Company	905	(2.52)	882	(1.11)	872	2.42	893	1.51	907

Along with the rate base estimates comes the uses of revenues by the IOUs. Exhibit 3-12 [1] shows the percentages of revenues for each of the described costs and the total annual revenues generated over the past five years. Fuel and O & M generally represent about 50 percent or more of the uses of the revenues generated by the IOUs.

While rate base in a regulated environment is important to the financial return to the utility, the addition of generation is only reflected in that rate base after its construction, when the unit is capable of generation. Net income is the amount, after all expenses, that is the determining factor in the approved rate-of-return.

Exhibit 3-12
Uses of Revenue

	1996	1997	1998	1999	2000
FLORIDA POWER & LIGHT					
Fuel	22 25 %	22.22 %	21 41 %	22.96 %	24 11 %
Other Operation and Maintenance	32.18	32.06	31.03	33 01	33 03
Depreciation and Amortization	15.15	13.74	19.63	16 32	15 32
Taxes Other Than Income Taxes	9.80	9.67	9.36	10.02	9.46
Income Taxes	13.10	6.06	5.56	5 38	5 49
Interest	4.10	3.70	3.09	2 70	2 77
Utility Net Operating Income Less Interest	10 25	10.14	9.90	9.61	9.82
TOTAL OPERATING REVENUE (Millions)	$5,986.43	$6,132.05	$6,365.83	$6,057.49	$6,360 80
FLORIDA POWER CORPORATION					
Fuel	20 37 %	22.14 %	21.21 %	23.02 %	27 62 %
Other Operation and Maintenance	42.02	44.96	37.53	36.44	37 81
Depreciation and Amortization	13.54	16.31	14.30	12.91	10 37
Taxes Other Than Income Taxes	7.67	7.91	7.69	7 71	7 38
Income Taxes	6 34	3.49	5.30	5.66	5 10
Interest	3.88	4.51	4.76	4.59	4 35
Utility Net Operating Income Less Interest	9 91	5.50	9.23	9.67	7.38
TOTAL OPERATING REVENUE (Millions)	$2,393.59	$2,448.44	$2,648.23	$2,632.58	$2,891.18
TAMPA ELECTRIC COMPANY					
Fuel	34 35 %	31.27 %	29.26 %	28.18 %	27.64 %
Other Operation and Maintenance	25.07	26.37	28.80	31.69	35.19
Depreciation and Amortization	10.69	11.77	12.49	9.59	8.25
Taxes Other Than Income Taxes	7.74	7.63	7.80	8.14	7.28
Income Taxes	11.73	7.30	6.11	5 68	6.07
Interest	4.21	4 68	4.27	5.51	4.97
Utility Net Operating Income Less Interest	11.15	10.98	11.27	11.22	10.59
TOTAL OPERATING REVENUE (Millions)	$1,123.71	$1,201.70	$1,247.33	$1,214.00	$1,355.81
GULF POWER COMPANY					
Fuel	29.08 %	28.90 %	30.35 %	31 01 %	30.20 %
Other Operation and Maintenance	33.04	33.74	33.84	34 05	35.83
Depreciation and Amortization	9.31	9 61	9.99	9 89	9.65
Taxes Other Than Income Taxes	8.20	8.27	7.91	7.68	7.83
Income Taxes	6.28	5.91	4.34	4 41	4.14
Interest	4.84	4.77	4.89	4.93	4.83
Utility Net Operating Income Less Interest	9.95	8.80	8.68	8 02	7 53
TOTAL OPERATING REVENUE (Millions)	$634.36	$625.96	$650.52	$674.10	$714.32

SOURCE: FERC Form 1

4. Specifics of FRCC & FPSC Operations

The FRCC market is comprised of a number of private and public utilities in the state of Florida designed to meet the FRCC's responsibility of ensuring an efficient, reliable electric supply. In order to meet that criterion, the FRCC works with the Florida Public Service Commission (FPSC) and the other state agencies that regulate the electric utility industry. While the industry is still regulated for the most part, the FRCC is under Federal Energy Regulatory Comission's (FERC) various orders to free up the transmission network in allowing open access to the grid. The actual processes include planning and approval of new generation and transmission upgrades and improvements to ensure that the state's electricity requirements are met into the future. This section describes the operations of FRCC and the FPSC.

4.1 Planning Process

In the electric industry in Florida, the FPSC reviews regulated utilities' ten-year site plans to assess the utilities' abilities to meet Florida's energy needs over that ten-year planning horizon. The PSC also considers petitions for determination of need for electric power plants and transmission lines as a way of ensuring that the state's power needs are being met. The level of activity in this area has increasedsignificantly over the past two years.

The FPSC also participates in formal and informal proceedings relating to long-range electric-utility bulk power supply operations and planning; power plant and transmission line siting, including the siting of power plants owned by non-traditional generating entities. Electric and natural gas safety and service quality, including complaints; electric utility conservation goals and programs; and emergencies due to operational events or weather are also part of the planning process.

Exhibit 4-1 [3] shows the process in which the FPSC evaluates the programs and plans of the various organizations when accessing the need for new power facilities.

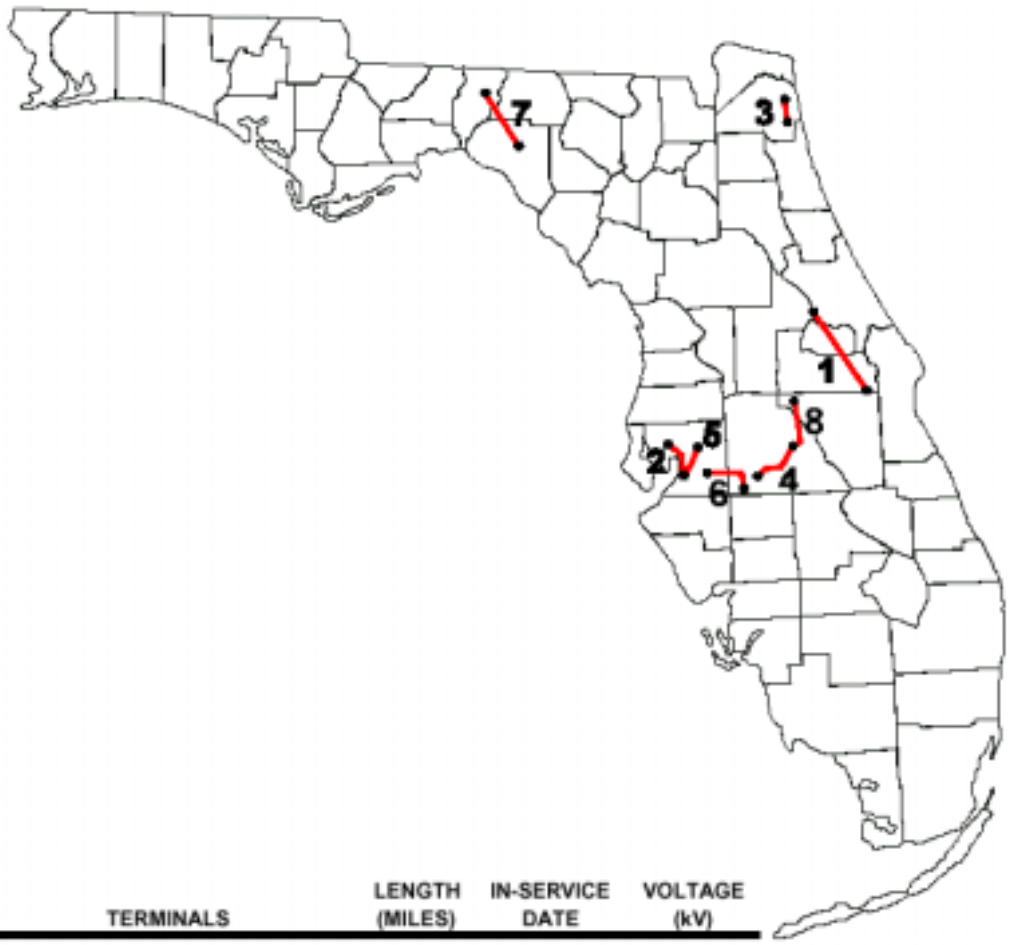
Exhibit 4-1
Statuatory Criteria for Reviewing Ten-Year Site Plans

REQUIREMENT	ACTION
Review the need for electrical power in the area to be served	Reviewed load forecasts, demand-side management (DSM) assumptions, and reliability criteria.
Review possible alternatives to the proposed Plan	Reviewed DSM assumptions, fuel forecasts, and sensitivities to the base-case expansion plan.
Review anticipated environmental impact of proposed power plant sites	Solicited comments from DEP regarding environmental impact and compliance. Comments are summarized within this report.
Consider views of local and state agencies regarding water and growth management issues	Solicited comments from the Department of Community Affairs (DCA), water management districts, and regional planning councils. Comments are summarized within this report.
Determine consistency of Plan with the State Comprehensive Plan	Evaluated energy-related aspects of the Comprehensive Plan. Reviewed comments provided by DCA and by regional and local planning agencies on growth management and Comprehensive Plan issues. Comments are summarized within this report.
Review Plan for information on energy availability and consumption	Reviewed load forecast data and methodologies used to arrive at load and energy forecasts.

4.1.1 Transmission Plans

Exhibit 4-2 [3] shows the transmission additions or upgrades planned for Florida over the next ten years. While not significant in terms of miles of new additions, expansion of the transmission capability will reinforce the existing system and allow for additional generation to be added improving reliability.

Exhibit 4-2
Proposed Major Transmisssion Lines for Florida (2000-2009)



	UTILITY	TERMINALS	LENGTH (MILES)	IN-SERVICE DATE	VOLTAGE (kV)
1	FPL	Poinsett - Sanford (2 lines)	45	June, 2001	230
2	TECO	Gannon - Juneau	15	June, 2003	230
3	JEA	Center Park - Greenland	19	Nov., 2003	230
4	FPC	Hines - W. Lake Wales (2 lines)	21	May, 2005 May, 2009	230
5	TECO	Gannon - Davis	15	June, 2005	230
6	TECO	Polk - Lithia [3]	22	Oct., 2006	230
7	FPC	Perry - Drifton	35	May, 2007	230
8	FPC	Intercession City - W. Lake Wales	30	May, 2007	230

4.2 External Factors Affecting the Plans

Because the future is uncertain, there are external factors that may affect the viability of the *TYS*P. Three potential factors are:

- Electric utility restructuring,
- The Florida Energy 2020 Study Commission, and
- Natural gas availability.

The following discussion elaborates on these factors.

4.2.1 Electric Utility Restructuring

Several federal actions have encouraged a restructuring of the electric industry nationwide. These actions are discussed below. In 1992, Congress enacted the Energy Policy Act of 1992 (EPAct). The EPAct authorized the Federal Energy Regulatory Commission (FERC) to order utilities to transmit, over their own transmission lines, power from wholesale entities. The EPAct also requires that a utility refusing to provide wholesale transmission service must show good cause for such refusal. EPAct is considered to be the catalyst for current restructuring of the electric utility industry.

In April, 1996, FERC issued Order No. 888 which required that all transmission-owning public entities make their facilities available to any user in a fair, non-discriminatory manner. Open access transmission was facilitated by utilities through "functional unbundling," a process by which generation and transmission functions within a single company are separated. FERC intended that Order No. 888 also encourage the development of independent system operators (ISOs) to manage the real-time actions of transmission systems.

In response to concerns over the transparency of real-time information, FERC issued Order No. 889, which required the development of an open-access same-time information system (OASIS). OASIS is an interactive database system designed to provide instantaneous information on the availability and price of transmission links between generation centers and load centers. The FRCC implemented Peninsular Florida's OASIS, known as FLOASIS, in November 1996.

In December 1999, FERC issued Order No. 2000, which encouraged the development of regional transmission organizations (RTOs). In Order No. 2000, FERC concluded that RTOs would offer advantages over the present system because they will lead to enhanced regional reliability and speed the development of a competitive, wholesale electricity market. FERC also expects that RTOs will remove any potential for discriminatory transmission system access.

On October 16, 2000, Peninsular Florida's three major utilities – Florida Power Corporation (FPC), Florida Power & Light (FPL), and Tampa Electric Copmpany (TECO) – filed a joint RTO proposal with the Federal Energy Regulatory Commission (FERC). A supplemental filing containing more detail was filed on December 15, 2000.

4.2.2 Florida Energy 2020 Sturdy Commission

Pursuant to Executive Order No. 2000-127, Governor Jeb Bush established the Florida Energy 2020 Study Commission (Study Commission) on May 3, 2000 to propose an energy plan and strategy for Florida. Consisting of 20 persons with various areas of expertise, the Study Commission first met in September 2000 to study the major issues affecting the future of the electric industry in the state. In accordance with the Governor's executive order, the Study Commission was directed to submit its recommendations to the Senate, the House of Representatives, and the Governor by December 2001.

4.2.3 Natural Gas Availability

Florida's electric utilities continue to rely primarily on a single gas transportation pipeline company, Florida Gas Transmission (FGT), to supply natural gas. FGT's system pipeline capacity, which is fully subscribed at this time, is nearly 1.5 billion (x 10^9) cubic feet per day (Bcf/day).

Nearly 81 percent of the existing pipeline capacity is used for utility and non-utility electric generation. This trend is expected to continue, as electric utilities project a 143 percent increase in natural gas usage over the next ten years. Much of this increase (46%) is forecasted to occur between 2002 and 2004.

Conservative estimates indicate that future natural gas requirements will exceed FGT's current capacity. To meet forecasted requirements, an additional 1.0 Bcf/day may be needed over the next ten years. FGT has asserted to the FRCC that it is able and willing to expand its natural gas pipeline system to meet all forecasted electric demand. However, the Commission believes that electric utilities should identify a contingency plan in case gas transportation capacity is not available when needed for future electric generation expansion.

On February 28, 2000, the Federal Energy Regulatory Commission (FERC) approved FGT's proposed Phase IV Expansion project. The project, consisting of compression upgrade and approximately 140 miles of new pipeline, will increase the average daily delivery capacity to a total of 1.727 Bcf/day. Construction began in May 2000, and the in-service date set at April 2001.

While FGT's Phase IV project was undergoing FERC review, FGT held a five-week open season for a proposed Phase V expansion. The open season, which closed on April 30, 1999, garnered

enough interest that FGT submitted a certificate application to FERC on December 1, 1999 for a compression upgrade and approximately 190 miles of new pipeline. FGT plans to begin construction in April 2001 to meet a projected in-service date of May 2003. Upon completion in 2003, the Phase V expansion is expected to raise FGT's capacity to nearly 2.0 Bcf/day. This capacity is sufficient to meet anticipated demand for year 2003 but not the forecasted need of 2.41 Bcf/day for year 2009.

Two companies are competing to construct new pipelines into the state. The total estimated pipeline capacity of these two lines is approximately 2.13 Bcf/day. The construction of either proposed line would mitigate the Commission's concern with having only one pipeline company serving the state.

On October 15, 1999, Gulfstream Natural Gas System, L.L.C. (Gulfstream) applied for FERC approval to construct and operate a new 744-mile interstate natural gas pipeline. As proposed, the 1.13 Bcf/day pipeline will extend from near Mobile, Alabama, across the Gulf of Mexico, to near Port Manatee, Florida. On April 28, 2000, the FERC issued a preliminary determination on non-environmental issues. In August 2000, the FERC issued a Draft Environmental Impact Statement, the first of two environmental approvals needed before the optional certificate is issued. Gulfstream anticipates an in-service date of June 2002.

On October 28, 1999, Williams-Transco applied for FERC approval to construct and operate a new 674-mile interstate natural gas pipeline known as the Buccaneer pipeline project (Buccaneer). On April 28, 2000, the FERC issued a preliminary determination on non-environmental issues. As proposed, the pipeline will extend from a processing plant in Mobile County, Alabama, across the Gulf of Mexico, to the west coast of Florida just north of Tampa, and continue onshore in a easterly direction. As proposed, the pipeline will have a capacity of 1.0 Bcf/day. In August 2000, the project received the first of two environmental approvals necessary to obtain an optional certificate. Buccaneer anticipates an in-service date of April 2002. However, residents in the area of the line's proposed route through Pasco County, Florida, have expressed opposition to the line's construction.

4.3 Reliability Requirements

4.3.1 Reliability Criteria

Utilities plan their electric system to meet peak demand plus allow for planned maintenance and forced outages of generating units, as well as variation from base-case weather or forecasting assumptions. To determine when additional future resources are required, utilities generally use two types of reliability criteria: ***deterministic*** and ***probabilisti***c. The reliability criteria used by each utility who filed a ten-year site plan (TYSP) are shown in Exhibit 4-3 [3] which follows this section, found later on page 35.

- **Deterministic Criteria**. Most all utilities use a deterministic reliability criterion. The primary criterion, reserve margin, is the amount of capacity that exceeds firm peak demand. This value may be expressed in megawatts or as a percentage above firm peak demand. Reserve margin is comprised of demand-side resources (e.g., non-firm load) and supply-side resources (e.g., generating units or firm capacity purchases). Some utilities employ a secondary criterion, supply-side reserve margin, which indicates the level of reserves that are to be made up of generating units or firm capacity purchases. However, reserve margin indicates the degree of reliability of a utility's system only at the single peak hour of the summer or winter season. Thus, it cannot capture the impact of random events occurring throughout the year, such as a forced outage of a generating unit.

- **Probabilistic Criteria**. Because of the limitations of reserve margin, many utilities also use probabilistic reliability criteria. The most common one is loss of load probability (LOLP), expressed in days per year. The LOLP criterion used for planning purposes is typically 0.1 days per year, meaning that, on average, a utility will likely be unable to meet its daily firm peak load on one day in ten years. The LOLP criterion allows a utility to calculate and incorporate its ability to import power from neighboring utilities. However, LOLP does not account for the magnitude of a forecasted capacity shortfall.

  A second probabilistic method, expected unserved energy (EUE), accounts for both the probability *and* magnitude of a forecasted energy shortfall. Utilities that use the EUE criterion usually calculate a ratio of expected unserved energy to net energy for load (EUE/NEL), and the typical criterion is 1 percent EUE/NEL. This means that, on average, a utility will likely be unable to serve 1 percent of its annual net energy requirements in a given year.

4.3.2 Role of Reliability Criteria in Resource Planning

Once reliability criteria are established, a utility applies its load forecast to its existing system resources. Reliability concerns arise if a utility's reserve margin falls below established criteria or the LOLP exceeds one day in ten years. In those instances, the utility must build or purchase additional capacity (supply-side options) or reduce peak load through additional cost-effective conservation programs (demand-side options). An integrated resource plan is developed by combining supply-side and demand-side options to satisfy the utility's reliability criteria in a cost-effective manner. This underscores the fact that reliability criteria are an essential element deciding the timing of planned resource additions.

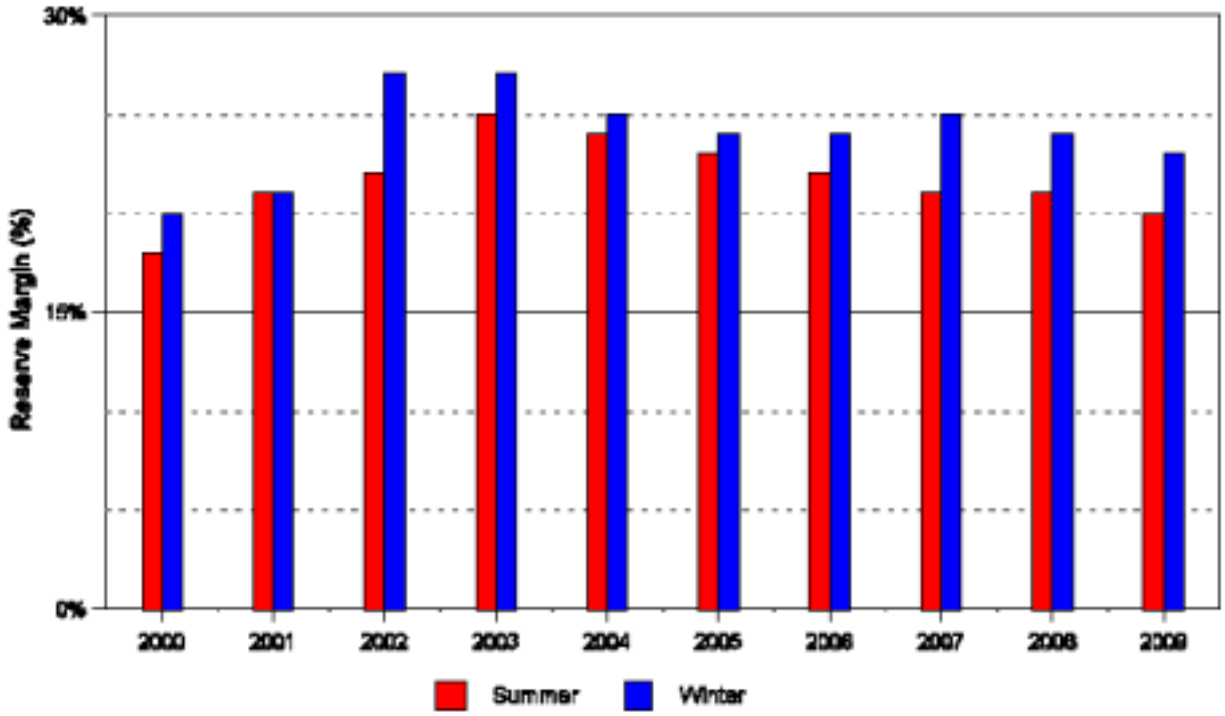
It should be noted that as recently as ten years ago, a 15 percent reserve margin criterion was approximately equivalent to an LOLP of 0.1 days per year. Currently, utility studies show that the 15 percent reserve margin arguably correlates to LOLP values much lower than 0.1 days per year. It is believed that these questionable LOLP values result from the high unit availability /

low forced outage rates experienced by today's newer generating units. Therefore, reserve margin has become the primary criterion driving the need for additional capacity. Exhibit 4-4 [3] provides the expected reserve margin for all utilities in the state of Florida.

Exhibit 4-3
Reliability Criteria for Reporting Utilities in Florida

UTILITY	RESERVE MARGIN		PROBABILISTIC CRITERIA	
	Percent	Season	LOLP	EUE/NEL
Florida Power Corporation (FPC)	15% [4]	Sum/Win	0.1	---
Florida Power & Light Company (FPL)	15% [4]	Sum/Win	0.1	---
Gulf Power Company (Gulf)	13.5% [5]	Sum	---	---
Tampa Electric Company (TECO)	15% [4] (7% supply-side) [6]	Sum/Win Sum	---	1%
Florida Municipal Power Agency (FMPA)	18%	Sum	---	---
Gainesville Regional Utilities (GRU)	15%	Sum/Win	---	---
JEA	15%	Sum/Win	---	---
Kissimmee Utility Authority (KUA)	15%	Sum/Win	---	---
City of Lakeland (LAK)	20% 22%	Sum Win	---	---
Orlando Utilities Commission (OUC)	15%	Sum/Win	---	0.5%
City of Tallahassee (TAL)	17%	Sum	---	---
Seminole Electric Cooperative (SEC)	15%	Sum/Win	---	1%

Exhibit 4-4
Utility Forecasts of Reserve Margin for the State of Florida



4.3.3 Commission Actions Affecting Reliability

In recent years, the Commission had an ongoing concern with the decreasing level of reserve margins forecasted by Florida's utilities and the impact of these reserve margins on reliability. However, much of the Commission's concerns on reliability have been mitigated by two actions:

Reserve Margin Agreement (FPC, FPL, and TECO) -- The Commission opened Docket No. 981890-EU to investigate the adequacy of reserve margins for Peninsular Florida's utilities. All generating utilities in Peninsular Florida were part of the investigation. Gulf was not included in the investigation because Gulf's service territory is not contained in Peninsular Florida.

The Commission concluded its reserve margin investigation when, on November 30, 1999, it approved an agreement by FPC, FPL, and TECO to adopt a 20 percent reserve margin planning criterion starting in the summer of 2004. The reserve margin agreement does not extend to municipal and cooperative electric utilities, which can therefore carry their current level of reserves. However, since FPC, FPL, and TECO make up approximately 75 percent of Peninsular Florida's generation, all municipal and cooperative utilities could carry exactly the FRCC minimum 15 percent reserve margin and the weighted average reserve margin for Peninsular Florida would still be nearly 19 percent due to the increased 20 percent reserve margins carried

by FPC, FPL, and TECO. It should be noted that Florida's municipal and cooperative utilities typically carry reserves exceeding 20 percent in most years.

Announcement of New Merchant Plant Capacity in Florida -- There is considerable interest in constructing merchant plants in Florida. Merchant plant developers almost always plan to build natural gas-fired combustion turbine or combined cycle generators. Recent technological improvements combined with the low price of natural gas results in low production costs for these types of generators. This gives merchant plant owners an opportunity to sell electricity in the wholesale market. Unless specific contracts exist, load-serving Florida utilities have no obligation to purchase electricity from merchant plants. Likewise, absent specific contracts, merchant plants have no obligation to sell electricity to load-serving Florida utilities. As a practical matter, most merchant plant sales will likely be made in-state because of transmission line constraints on the Southern Company-FRCC interface and the low marginal cost of coal-fired electricity in the Southern Company region.

During periods of capacity shortages, merchant plants may enhance the reliability of Peninsular Florida's grid without putting retail ratepayers at risk for the costs of the facility. When a merchant plant is unavailable due to planned or forced outages, or is uneconomical to operate due to high fuel costs, the merchant plant's owners bear the costs rather than retail customers; they have powerful financial incentive to keep their units with high.

The Commission approved a determination of need for the 514 MW combined cycle unit proposed by Duke New Smyrna. This decision was overturned by the Florida Supreme Court, which stated that the Commission does not have jurisdiction to grant a Determination of Need for generating units whose capacity is not fully committed to the retail load of an electric utility. The Commission petitioned the Supreme Court for a rehearing on its decision. On September 28, 2000, the Supreme Court reaffirmed its order overturning the Commission's decision.

Several companies have announced plans to construct, over the next five years, combustion turbine merchant plants in Florida totaling approximately 5,370 MW. These units, which do not require certification under the Power Plant Siting Act, are summarized in Exhibit 4-5 [3] below. Many merchant plant companies have also requested interconnection studies from investor-owned utilities.

As noted previously the FRCC did not include any combustion turbine merchant plant additions in its 2000 Regional Load and Resource Plan. Therefore, the Commission has compiled a listing of announced combustion turbine merchant plant additions. If the owners of these combustion turbine merchant plants were to sign firm capacity contracts to sell the entire 5,370 MW to load-serving utilities, Peninsular Florida reserve margins could potentially increase from 19 percent to 34 percent (summer, 2002) and from 24 percent to 38 percent (winter, 2002/03).

Exhibit 4-5
Announced Combustion Turbine Merchant Plant Additions

Owner	Size (MW)	Location	In-Service Date
Reliant Energy	537	Osceola County	2001
Calpine	100	Polk County (Auburndale)	2001
El Paso	680	Hardee County	2001
El Paso	480	Pasco County	2001
Constellation	900	Brevard County	2002
Dynegy, Inc.	500	Osceola County	2002
IPS Avon Park	510	DeSoto County (Avon Park)	2002
Decker Energy	510	Polk County (Ft. Meade)	2002
Duke Energy Ft. Pierce	640	St. Lucie County (Ft. Pierce)	unknown
Granite Power Partners II	510	Hardee County	unknown
TOTAL	**5,367**		

4.4 Competitive Market Oversight

The FPSC is addressing competitive market structure and ratemaking issues in industries that havetraditionally been considered monopolies, yet are now transitioning into a competitive market. New technologies and large customers are two of the catalysts for the change to competition. The advent of new technologies allows new market entrants and new opportunities for established utilities. In addition, large customers may benefit with increased competition by having more options as to whose services they use. Each of these changes shifts the dynamics of the market and requires the PSC to reevaluate the current pricing, regulations, and constraints currently in place. This reevaluation activity does not just occur when major industry changes occur. Instead, competitive issues frequently arise in conjunction with the other two major regulatory roles of the PSC: establishing rates and monitoring service issues.

The electric industry in Florida is on the verge of major changes. The creation of GridFlorida will require changes in the way existing utilities do business. In addition, the Governor's Energy 2020 Study Commission is looking at expanding wholesale competition and considering retail competition. Either of these changes will affect the competitive nature of the electric market and the customers. The PSC has been monitoring the development of the GridFlorida proposal to form a regional transmission organization (RTO) in the state. The Federal Energy Regulatory Commission (FERC) believes that having electric transmission operated by independent entities will facilitate competition in the wholesale electric market. The FERC hopes that this will lead to lower retail prices in the long term. While the PSC does not have jurisdiction to establish

wholesale transmission rates, the potential effect on retail consumers of this effort to develop a competitive wholesale market is considerable. Thus, the PSC has faithfully attended the formation meetings and provided comments to the FERC.

During the year 2000, Florida experienced increasing pressure to expand its wholesale power market. This occurred due to Duke Energy's attempts to gain permission to build a merchant plant in the state, and Florida's general concern as to whether there are sufficient power resources in light of California's power outages. The PSC is exploring the potential effects on wholesale competition of having a greater amount of Florida's power generated by producers other than the traditional utilities. In addition, the traditional utilities are considering "spinning off" their existing generation facilities into separate affiliates and then purchasing power back from those affiliates. That action would break up the traditional, vertically integrated electric industry. While competition for retail electric customers currently is not part of the regulatory framework in Florida, assessment of competitive implications and considerations are very much a part of the PSC's work.

The PSC also monitors electric utility mergers to ensure that ratepayers will not be unduly burdened. In 2000, the PSC monitored two major mergers. The first, between Florida Progress Corp. (parent of Florida Power Corporation) and CP&L Energy, Inc. (parent of Carolina Power & Light). The creation of Progress Energy out of that merger proved a significant change for the electric industry. PSC staff prepared summaries of the filing and drafted comments for the FERC. The second merger, between Florida Power & Light Company (FPL) and Entergy, would have created the largest electric utility in the United States. At the end of 2000, this merger was pending at the FERC, however, on April 2, 2001, the companies called off plans for what would have been a $9-billion merger. During 2000, however, the PSC reviewed that filing as well, and intervened for monitoring purposes.

The PSC also has had to consider competitive issues regarding the utilities' customers. In order to give the utilities the flexibility to preserve their customer base, the PSC approved economic development and/or load retention tariffs for the state's four largest investor-owned electric utilities. One pending case concerns a challenge to the propriety of offering different rates to two manufacturers served by the same utility, and whether such an offering constitutes "undue discrimination."

4.5 Ratebase/Economic Regulation

The FPSC establishes and monitors earnings levels for regulated electric, natural gas, water, and wastewater companies. In addition, there is one remaining telephone company under rate-of-return regulation. Whenever a company believes that its earnings are below a reasonable level, it can petition the PSC for a change in rates. The PSC conducts an extensive review of the company's earnings and determines what fair levels of rates and earnings are for the company. The review consists of an analysis of the company's books and records, as well as a determination of what a reasonable return is for the company. The review also includes an

analysis of the actual rates charged by the company, allocates revenue requirements between classes of customers, and develops appropriate rate structures within rate classes.

In addition to reviewing a company's request for a rate increase, the PSC also monitors each company's earnings levels to reduce the likelihood that any company receives excessive earnings. Each company files an annual report, which is reviewed to determine its level of earnings for the prior year. If, based on prior year earnings, it appears that a company's earnings will be excessive in the following year, the PSC will fully analyze that company's books and records and, when appropriate, reduce its rates. During that overearnings review, the PSC may place earnings subject to refund if the review indicates the company is overearning.

4.5.1 Electric

In addition to annual reviews, the larger electric and natural gas companies also file earnings information on a more frequent basis, with some companies filing quarterly, semi-annually or monthly, depending upon their size. These more frequent filings allow the PSC to take quicker action if it appears that a company may be overearning, and allow consumers' rates to be reset to reflect that review.

While three of Florida's four largest investor-owned electric utilities have agreements in place that freeze base rates, the PSC devotes considerable resources to various tariff, rate, and other economic issues. Reviews of fuel, capacity, conservation, environmental costs considered in cost-recovery-clause dockets, special contracts, new tariff offerings, conservation program approvals, and revision, depreciation, amortization, and decommissioning studies are just some of the many aspects of economic regulation involving electric and natural gas utilities that are regularly pending before the FPSC.

During 2000, a significant case in the area of economic regulation for the electric industry was FloridaPower Corporation's filing of a petition requesting a determination of need for its Hines Unit 2 plant. PSC staff testified regarding the policy issue of obligating ratepayers on a long-term basis for a plant that could become uneconomical during its useful life. A petition of need for the 530 MW plant ultimately was approved in a vote by FPSC Commissioners on December 19, 2000.

5. Generation in FRCC

This section discusses how electric generation capacity is managed within FRCC, and how the owners of that capacity are compensated. The planning process is described in the following:

- Section 5.1, "Existing Units in FRCC," documents the totality of the existing units in the FRCC;
- Section 5.2, "Planned Generation," discusses the plans of the various utilities in meeting the needs of their consumers;
- Section 5.3, "Generation Selection," discusses the types of generation units being selected by Florida's generating companies; and finally,
- Section 5.4, "Status of Need Determinations and Site Certifications," is a summary of those generating units that have received a Determination of Need from the Commission but have yet to be placed into commercial operation.

5.1 Existing Units in FRCC

As part of the regional characterizations, the GEMSET Team collects data on each generating unit in a particular region. Below, in Exhibit 5-1, are all of the identified units currently in the FRCC. This information will be utilized to develop pricing and other information when evaluating future plans in this region. The units in this list are stacked in increasing order of the GEMSET's team presumption of GEMSET estimates of production costs; the lower operating cost units listed early, with increasing costly units following.

Inasmuch as the FRCC is the first of the regulated characterizations undertaken by the GEMSET Team, there is an element of pricing and production costing that has surfaced due to the procedures and programs that must be followed by the region's utilities. In the situation facing regulated utilities, the procedure for adding new generation is not so much a market pricing function, but one based on need to meet certain reliability standards established by the FPSC.

These standards are primarily based on the calculated reserve margins in a particular utility's territory where existing units, conservation and demand side management programs are all evaluated against the expected load growth in the area. Therefore, unlike those regions where a competitive market exists, the addition of new generation is a utility-by-utility function encompassing the above-described factors. Its actual cost impact on the ratepayers is reviewed by the regulators and judged to be cost effective and reasonable by the FPSC.

Exhibit 5-1 FRCC Unit Data

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Florida Power & Light Co	CSL Gas Recovery	GT	LF	3000	3
Florida Power & Light Co	CSL Gas Recovery	GT	LF	3000	6
Florida Power & Light Co	CSL Gas Recovery	GT	LF	3000	9
Florida Power & Light Co	CSL Gas Recovery	GT	LF	3000	12
Florida Power & Light Co	Volusia County Landfill	IC	LF	1900	14
Florida Power & Light Co	Volusia County Landfill	IC	LF	1900	16
Tampa Electric Co	City of Tampa Howard F Curren AWT Plant	IC	DG	500	16
Tampa Electric Co	City of Tampa Howard F Curren AWT Plant	IC	DG	500	17
Tampa Electric Co	City of Tampa Howard F Curren AWT Plant	IC	DG	500	17
Tampa Electric Co	City of Tampa Howard F Curren AWT Plant	IC	DG	500	18
Tampa Electric Co	City of Tampa Howard F Curren AWT Plant	IC	DG	500	18
Florida Power & Light Co	Bryant Sugar House	ST	AB	2500	21
Florida Power & Light Co	Bryant Sugar House	ST	AB	20000	41
Florida Power & Light Co	Bryant Sugar House	IC	AB	1000	42
Florida Power & Light Co	Bryant Sugar House	IC	AB	1000	43
Florida Power & Light Co	Bryant Sugar House	ST	AB	3500	46
Florida Power & Light Co	Bryant Sugar House	ST	AB	2500	49
Florida Power & Light Co	Central District Wastewater Treatment Plant	IC	SM	1250	50
Florida Power & Light Co	Central District Wastewater Treatment Plant	IC	SM	1250	51
Florida Power & Light Co	Central District Wastewater Treatment Plant	IC	SM	1250	53
Florida Power & Light Co	Central District Wastewater Treatment Plant	IC	SM	1250	54
Florida Power & Light Co	Clewiston Sugar House	ST	AB	5000	59
Florida Power & Light Co	Clewiston Sugar House	ST	AB	3500	62
Florida Power & Light Co	Clewiston Sugar House	ST	AB	3125	65
Florida Power & Light Co	Clewiston Sugar House	ST	AB	6000	71
Florida Power & Light Co	Clewiston Sugar House	IC	AB	1000	72
Florida Power & Light Co	Clewiston Sugar House	IC	AB	1000	73
Florida Power & Light Co	Clewiston Sugar House	ST	AB	21600	95
Florida Power & Light Co	Lee County Solid Waste Energy Recovery Facility	ST	MW	39000	134
Florida Power & Light Co	Miami Dade County Resources Recovery Facility	ST	MW	38500	173
Florida Power & Light Co	Miami Dade County Resources Recovery Facility	ST	MW	38500	211
Florida Power & Light Co	North County Regional Resource Recovery Facility	ST	MW	61000	272
Florida Power & Light Co	Okeelanta Power LP	ST	AB	74900	347
Florida Power & Light Co	Palatka Operations	ST	BL	5000	352
Florida Power & Light Co	Palatka Operations	ST	BL	7500	359
Florida Power & Light Co	Palatka Operations	ST	BL	48000	407
Florida Power & Light Co	Palatka Operations	ST	BL	27000	434
Florida Power & Light Co	South District Wastewater Treatment Plant	IC	SM	900	435
Florida Power & Light Co	South District Wastewater Treatment Plant	IC	SM	900	436
Florida Power & Light Co	South District Wastewater Treatment Plant	IC	SM	900	437
Florida Power & Light Co	Wheelabrator North Broward	ST	MW	67609	505
Florida Power & Light Co	Wheelabrator South Broward	ST	MW	66086	571
Florida Power Corp	Buckeye Florida LP	ST	BL	8160	579

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Florida Power Corp	Buckeye Florida LP	ST	BL	14800	594
Florida Power Corp	Buckeye Florida LP	ST	BL	11000	605
Florida Power Corp	Buckeye Florida LP	ST	BL	10400	615
Florida Power Corp	Lake County Resource Recovery Facility	ST	MW	15582	631
Florida Power Corp	Pasco County Solid Waste Resource Recovery	ST	MW	31200	662
Florida Power Corp	Pinellas County Resource Recovery	ST	MW	26038	688
Florida Power Corp	Pinellas County Resource Recovery	ST	MW	50580	739
Florida Power Corp	Suwannee River Chem Complex	ST	SU	27310	766
Florida Power Corp	Swift Creek Chemical Complex	ST	SU	21011	787
Florida Power Corp	U S Agri Chemicals Corp Fort Meade Chemical Prod	ST	SU	32000	819
Florida Public Utilities Co	Jefferson Smurfit Corp	ST	BL	74400	893
Florida Public Utilities Co	Jefferson Smurfit Corp	ST	BL	44000	937
Florida Public Utilities Co	Jefferson Smurfit Corp	ST	BL	9375	947
Gulf Power Co	Bay Resource Management Center	ST	MW	13600	960
Gulf Power Co	Stone Container Corp Panama City Mill	ST	BL	4000	964
Gulf Power Co	Stone Container Corp Panama City Mill	ST	BL	20000	984
Gulf Power Co	Stone Container Corp Panama City Mill	ST	BL	10000	994
JEA	Girvin Landfill	IC	REF	3000	997
JEA	Jefferson Smurfit Corp Jacksonville	ST	BL	43500	1,041
Key West City of	Southernmost Waste To Energy Facility	ST	MW	3500	1,044
Tampa Electric Co	Cargill Fertilizer Inc	ST	SU	42500	1,087
Tampa Electric Co	Cargill Fertilizer Inc	ST	SU	6000	1,093
Tampa Electric Co	Cargill Fertilizer Inc	ST	SU	35402	1,128
Tampa Electric Co	Cargill Fertilizer Inc Bartow	ST	SU	45050	1,173
Tampa Electric Co	Cargill Fertilizer Inc Bartow	ST	SU	36915	1,210
Tampa Electric Co	CFI Plant City Phosphate Complex	ST	SU	40545	1,251
Tampa Electric Co	Farmland Hydro LP	ST	SU	38200	1,289
Tampa Electric Co	Hillsborough County Resource Recovery Facility	ST	MW	29020	1,318
Tampa Electric Co	McKay Bay Facility	ST	MW	22170	1,340
Tampa Electric Co	Mulberry Phosphates Inc	ST	SU	21000	1,361
Tallahassee City of	Jackson Bluff	HY	WAT	4000	1,365
Tallahassee City of	Jackson Bluff	HY	WAT	3000	1,368
Tallahassee City of	Jackson Bluff	HY	WAT	4000	1,372
USCE-Mobile District	J Woodruff	HY	WAT	10000	1,384
USCE-Mobile District	J Woodruff	HY	WAT	10000	1,396
USCE-Mobile District	J Woodruff	HY	WAT	10000	1,408
Florida Power & Light Co	Martin	CW	WH	204000	1,908
Florida Power & Light Co	Martin	CW	WH	204000	2,408
Florida Power & Light Co	Lauderdale	CW	WH	151250	2,883
Florida Power & Light Co	Lauderdale	CW	WH	151250	3,358
Florida Power & Light Co	Putnam	CA	WH	120000	3,655
Florida Power & Light Co	Osceola Power LP	ST	WW	65000	3,720
Florida Power & Light Co	Putnam	CA	WH	120000	4,017
Lakeland City of	Ridge Generating Station	ST	WW	47193	4,064
Vero Beach City of	Vero Beach Municipal	CW	WH	16500	4,077
Lakeland City of	Larsen Memorial	CW	WH	25000	4,108
Lake Worth City of	Tom G Smith	CW	WH	10000	4,117
Florida Public Utilities Co	Rayonier Fernandina Mill	ST	WW	20000	4,137

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Kissimmee Utility Authority	Hansel	CW	WH	10000	4,147
Kissimmee Utility Authority	Hansel	CW	WH	10000	4,157
Florida Power Corp	Timber Energy Resources Inc	ST	WW	14010	4,171
Florida Power Corp	Jefferson Power LC	ST	WW	7500	4,179
Florida Power Corp	Perpetual Energy Corp	ST	WW	7500	4,186
Florida Power Corp	Tiger Bay	CW	WH	66150	4,253
Florida Public Utilities Co	Rayonier Fernandina Mill	ST	WW	6500	4,260
Fort Pierce Utilities Auth	Henry D King	CW	WH	8375	4,268
Florida Public Utilities Co	Rayonier Fernandina Mill	ST	WW	5000	4,273
Florida Power Corp	Crystal River	NP	UR	890460	5,125
Florida Power & Light Co	St Lucie	NP	UR	850000	5,978
Florida Power & Light Co	Turkey Point	NP	UR	760000	6,695
Florida Power & Light Co	Turkey Point	NP	UR	760000	7,412
Florida Power & Light Co	St Lucie	NP	UR	850000	8,265
Kissimmee Utility Authority	Cane Island	CW	WH	40000	8,305
Florida Power Corp	Crystal River	ST	BIT	739260	9,037
Florida Power Corp	Crystal River	ST	BIT	739260	9,759
Seminole Electric Coop Inc	Seminole	ST	BIT	714600	10,424
Seminole Electric Coop Inc	Seminole	ST	BIT	714600	11,089
JEA	St Johns River Power	ST	BIT	679000	11,727
JEA	St Johns River Power	ST	BIT	679000	12,351
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	21250	12,372
Florida Power Corp	Crystal River	ST	BIT	523800	12,851
Gulf Power Co	Crist	ST	BIT	578000	13,328
Tampa Electric Co	Big Bend	ST	BIT	486000	13,775
Orlando Utilities Comm	Stanton Energy Ctr	ST	BIT	464580	14,221
Orlando Utilities Comm	Stanton Energy Ctr	ST	BIT	464580	14,664
Tampa Electric Co	Big Bend	ST	BIT	445500	15,107
Tampa Electric Co	Big Bend	ST	BIT	445500	15,533
Tampa Electric Co	Big Bend	ST	BIT	445500	15,959
Tampa Electric Co	F J Gannon	ST	BIT	445500	16,351
Florida Power Corp	Crystal River	ST	BIT	440550	16,734
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	12500	16,747
Lakeland City of	C D McIntosh Jr	ST	BIT	363870	17,088
Florida Power & Light Co	Indiantown Cogeneration Facility	ST	COL	330000	17,418
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	10500	17,428
Gulf Power Co	Crist	ST	BIT	369750	17,730
Tampa Electric Co	Polk	IG	BIT	326229	17,980
Florida Power & Light Co	South Florida Cogeneration Associates	ST	WH	8000	17,988
Tampa Electric Co	F J Gannon	ST	BIT	239360	18,230
Gainesville Regional Utilities	Deerhaven	ST	BIT	250750	18,459
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	7500	18,466
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	7500	18,474
Florida Power Corp	Florida Coast Paper Co LLC	ST	WH	7500	18,481
Gulf Power Co	Lansing Smith	ST	BIT	190400	18,671
Tampa Electric Co	F J Gannon	ST	BIT	187500	18,840
Gulf Power Co	Lansing Smith	ST	BIT	149600	19,002
Tampa Electric Co	F J Gannon	ST	BIT	179520	19,157
Florida Power & Light Co	Central Power&Lime Inc	ST	COL	125000	19,282
Tampa Electric Co	F J Gannon	ST	BIT	125000	19,396
Tampa Electric Co	F J Gannon	ST	BIT	125000	19,494
Gulf Power Co	Crist	ST	BIT	93750	19,574
Gulf Power Co	Crist	ST	BIT	93750	19,652
Tampa Electric Co	Pasco Beverage Co	ST	WH	1500	19,654

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Gulf Power Co	Scholz	ST	BIT	49000	19,700
Gulf Power Co	Scholz	ST	BIT	49000	19,746
Gulf Power Co	Pensacola Florida	ST	COL	43200	19,789
Gulf Power Co	Pensacola Florida	ST	COL	39600	19,829
JEA	Cedar Bay Generating Co LP	SF	COL	285000	20,114
Tampa Electric Co	Phillips	CW	WH	3600	20,114
Florida Power Corp	Hines Energy Complex	CC	NG	505000	20,619
Florida Power & Light Co	Martin	CT	NG	204000	20,823
Florida Power & Light Co	Martin	CT	NG	204000	21,027
Florida Power & Light Co	Martin	CT	NG	204000	21,231
Florida Power & Light Co	Martin	CT	NG	204000	21,435
Florida Power & Light Co	Lauderdale	CT	NG	185000	21,620
Florida Power & Light Co	Lauderdale	CT	NG	185000	21,805
Florida Power & Light Co	Lauderdale	CT	NG	185000	21,990
Florida Power & Light Co	Lauderdale	CT	NG	185000	22,175
Florida Power Corp	Tiger Bay	CT	NG	166850	22,344
Tampa Electric Co	Auburndale Power Partners LP	GT	GAS	135000	22,479
Florida Power Corp	Orlando CoGen LP	GT	GAS	122400	22,601
Kissimmee Utility Authority	Cane Island	CT	NG	80000	22,681
Florida Power Corp	Mulberry Cogeneration Facility	GT	GAS	103500	22,784
Tampa Electric Co	Phillips	IC	FO6	19215	22,801
Tampa Electric Co	Phillips	IC	FO6	19215	22,818
Reedy Creek Improvement Dist	Central Energy Plant	CT	NG	35000	22,847
Reedy Creek Improvement Dist	Central Energy Plant	CA	NG	8500	22,856
Florida Power & Light Co	Cape Canaveral	ST	FO6	402050	23,262
JEA	Northside Generating	ST	FO6	563700	23,767
Florida Power & Light Co	Turkey Point	ST	FO6	402050	24,178
Florida Power & Light Co	Turkey Point	ST	FO6	402050	24,581
Florida Power & Light Co	Cape Canaveral	ST	FO6	402050	24,985
Vero Beach City of	Vero Beach Municipal	CT	NG	41400	25,025
Florida Power & Light Co	Port Everglades	ST	FO6	402050	25,437
JEA	Northside Generating	ST	FO6	297500	25,699
Lakeland City of	Larsen Memorial	CT	NG	101520	25,792
Florida Power & Light Co	Port Everglades	ST	FO6	402050	26,184
Lake Worth City of	Tom G Smith	CT	NG	21410	26,207
Florida Power & Light Co	Sanford	ST	FO6	436100	26,601
Florida Power & Light Co	Fort Myers	ST	FO6	402050	27,003
Florida Power & Light Co	Sanford	ST	FO6	436100	27,397
JEA	Southside Generating	ST	FO6	156600	27,539
Florida Power & Light Co	Riviera	ST	FO6	310420	27,822
JEA	J D Kennedy	ST	FO6	149600	27,919
Florida Power & Light Co	Riviera	ST	FO6	310420	28,211
Florida Power & Light Co	Port Everglades	ST	FO6	225250	28,433
Florida Power & Light Co	Port Everglades	ST	FO6	225250	28,655
Florida Power Corp	Anclote	ST	FO6	556200	29,177
Florida Power & Light Co	Sanford	ST	FO6	156250	29,331
Florida Power & Light Co	Fort Myers	ST	FO6	156250	29,473
Orlando Utilities Comm	St Cloud	IC	NG	2000	29,475
Florida Power & Light Co	Manatee	ST	FO6	863300	30,292
Florida Power Corp	P L Bartow	ST	FO6	127500	30,409
Florida Power Corp	Anclote	ST	FO6	556200	30,931
Florida Power & Light Co	Manatee	ST	FO6	863300	31,753
Florida Power Corp	P L Bartow	ST	FO6	127500	31,872
Florida Power & Light Co	Martin	ST	NG	863300	32,705
Homestead City of	G W Ivey	IC	NG	6485	32,711
Florida Power Corp	University of FL	GT	NG	43000	32,752
Florida Power & Light Co	Martin	ST	NG	863300	33,573
Gulf Power Co	Pensacola Florida Plant	GT	GAS	100000	33,673
Orlando Utilities Comm	Reliant Energy Indian River Plant	ST	GAS	317043	33,990

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Homestead City of	G W Ivey	IC	NG	8800	33,999
Kissimmee Utility Authority	Hansel	IC	NG	3000	34,002
Homestead City of	G W Ivey	IC	NG	8800	34,011
JEA	Southside Generating	ST	FO6	75000	34,078
Homestead City of	G W Ivey	IC	NG	6485	34,085
Florida Power & Light Co	Putnam	CT	NG	85000	34,170
Florida Power & Light Co	Putnam	CT	NG	85000	34,255
Florida Power & Light Co	Putnam	CT	NG	85000	34,340
Florida Power & Light Co	Putnam	CT	NG	85000	34,425
Gainesville Regional Utilities	Deerhaven	GT	NG	96140	34,506
Tampa Electric Co	Hookers Point	ST	FO6	81600	34,573
Lakeland City of	C D McIntosh Jr	ST	NG	126000	34,676
Orlando Utilities Comm	St Cloud	IC	NG	5850	34,681
Orlando Utilities Comm	Reliant Energy Indian River Plant	ST	GAS	213000	34,894
Fort Pierce Utilities Auth	Henry D King	CT	NG	22520	34,917
Kissimmee Utility Authority	Cane Island	GT	NG	42000	34,952
JEA	J D Kennedy	ST	FO6	50000	34,995
Tampa Electric Co	Dinner Lake	ST	NG	12650	35,006
Orlando Utilities Comm	St Cloud	IC	NG	6300	35,012
Florida Power Corp	Orange Cogeneration Facility	GT	GAS	54000	35,066
Florida Power Corp	Orange Cogeneration Facility	GT	GAS	54000	35,120
Gainesville Regional Utilities	Deerhaven	ST	NG	75000	35,204
Florida Power Corp	Intercession City	GT	FO2	165000	35,374
Tallahassee City of	Arvah B Hopkins	ST	NG	259250	35,622
Florida Power Corp	Lake Cogen Ltd	GT	GAS	48800	35,671
Florida Power Corp	Lake Cogen Ltd	GT	GAS	48800	35,720
Florida Power Corp	Lake Cogen Ltd	GT	GAS	48800	35,769
Florida Power Corp	Pasco Cogen Ltd	GT	GAS	48800	35,818
Florida Power Corp	Pasco Cogen Ltd	GT	GAS	48800	35,866
Orlando Utilities Comm	Indian River Plant	GT	NG	41400	35,914
Orlando Utilities Comm	Indian River Plant	GT	NG	41400	35,962
Florida Power & Light Co	Tropicana Products Inc Bradenton Cogen	GT	GAS	45200	36,008
Orlando Utilities Comm	St Cloud	IC	NG	3750	36,011
Lakeland City of	C D McIntosh Jr	ST	NG	103500	36,098
Florida Power & Light Co	Cutler	ST	NG	162000	36,243
Orlando Utilities Comm	St Cloud	IC	NG	3750	36,246
Orlando Utilities Comm	St Cloud	IC	NG	6445	36,252
Homestead City of	G W Ivey	IC	NG	2070	36,254
Homestead City of	G W Ivey	IC	NG	2070	36,256
Homestead City of	G W Ivey	IC	NG	2070	36,258
Homestead City of	G W Ivey	IC	NG	2070	36,260
Homestead City of	G W Ivey	IC	NG	2070	36,262
Homestead City of	G W Ivey	IC	NG	2070	36,264
Homestead City of	G W Ivey	IC	NG	2070	36,266
Florida Power Corp	P L Bartow	ST	NG	239360	36,479
JEA	J D Kennedy	ST	FO6	50000	36,522
Lakeland City of	Larsen Memorial	ST	NG	44000	36,572
Kissimmee Utility Authority	Hansel	IC	NG	2070	36,574
Orlando Utilities Comm	Indian River Plant	GT	NG	130000	36,701
Orlando Utilities Comm	Indian River Plant	GT	NG	130000	36,828
Tallahassee City of	Arvah B Hopkins	ST	NG	75000	36,908
Orlando Utilities Comm	Reliant Energy Indian River Plant	ST	GAS	78500	36,987
Florida Power & Light Co	South Florida Cogeneration Associates	GT	GAS	19900	37,007
Orlando Utilities Comm	St Cloud	IC	NG	2000	37,009
Tampa Electric Co	Hookers Point	ST	FO6	34500	37,041
Tampa Electric Co	Hookers Point	ST	FO6	34500	37,073
Tampa Electric Co	IMC Agrico Co New Wales	ST	GAS	58500	37,131

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
	Operations				
Tampa Electric Co	Auburndale Power Partners LP	ST	GAS	57778	37,189
JEA	Northside Generating	ST	FO6	297500	37,450
Vero Beach City of	Vero Beach Municipal	ST	NG	55000	37,506
Tampa Electric Co	Hookers Point	ST	FO6	33000	37,538
Florida Power Corp	Mulberry Cogeneration Facility	ST	GAS	49500	37,588
Homestead City of	G W Ivey	IC	NG	2500	37,590
Homestead City of	G W Ivey	IC	NG	3270	37,594
Homestead City of	G W Ivey	IC	NG	3270	37,597
Homestead City of	G W Ivey	IC	NG	2500	37,599
Homestead City of	G W Ivey	IC	NG	2500	37,602
Florida Power Corp	Debary	GT	NG	115000	37,695
Florida Power Corp	Debary	GT	NG	115000	37,788
Florida Power Corp	Debary	GT	NG	115000	37,881
Florida Power & Light Co	Cutler	ST	NG	74500	37,953
Florida Power Corp	Suwannee River	ST	NG	75000	38,034
Florida Power Corp	Intercession City	GT	NG	115000	38,128
Tampa Electric Co	IMC Agrico Co South Pierce Operations	ST	GAS	38000	38,166
Gainesville Regional Utilities	John R Kelly	ST	NG	50000	38,215
JEA	Anheuser Busch Inc Jacksonville Brewery	GT	GAS	8650	38,224
Florida Power Corp	Intercession City	GT	NG	115000	38,318
Florida Power Corp	Intercession City	GT	NG	115000	38,412
Kissimmee Utility Authority	Hansel	IC	NG	2070	38,414
Tampa Electric Co	Hookers Point	ST	FO6	49000	38,455
JEA	Seminole Mill	ST	GAS	30000	38,485
Florida Power Corp	Intercession City	GT	NG	115000	38,579
Florida Power Corp	Orange Cogeneration Facility	ST	GAS	28665	38,608
Kissimmee Utility Authority	Hansel	IC	FO2	2500	38,610
Florida Power Corp	Lake Cogen Ltd	ST	GAS	26500	38,637
Florida Power Corp	Pasco Cogen Ltd	ST	GAS	26500	38,663
Florida Power Corp	Suwannee River	GT	NG	61200	38,730
Vero Beach City of	Vero Beach Municipal	ST	NG	33000	38,763
Florida Power Corp	Suwannee River	GT	NG	61200	38,830
Kissimmee Utility Authority	Hansel	IC	FO2	2500	38,833
Gulf Power Co	Pea Ridge	GT	NG	4750	38,838
Gulf Power Co	Pea Ridge	GT	NG	4750	38,843
Gulf Power Co	Pea Ridge	GT	NG	4750	38,848
Fort Pierce Utilities Auth	Henry D King	ST	NG	56116	38,898
Kissimmee Utility Authority	Hansel	IC	NG	2070	38,900
Florida Power Corp	P L Bartow	GT	NG	55700	38,960
Fort Pierce Utilities Auth	Henry D King	ST	NG	33000	38,992
Florida Power Corp	P L Bartow	GT	NG	55700	39,045
Florida Power Corp	Suwannee River	ST	NG	37500	39,077
Florida Power Corp	Suwannee River	ST	NG	34500	39,110
Vero Beach City of	Vero Beach Municipal	ST	NG	12500	39,123
Florida Power Corp	Citrus World Inc	GT	GAS	3500	39,127
JEA	Baptist Medical Center	GT	GAS	3500	39,130
Tampa Electric Co	Cutrale Citrus Juices USA Inc	GT	GAS	3500	39,134
Tampa Electric Co	Cutrale Citrus Juices USA Inc	GT	GAS	3500	39,137
Tallahassee City of	S O Purdom	ST	NG	50000	39,187
JEA	Baptist Medical Center	GT	GAS	3096	39,190
Tampa Electric Co	IMC Agrico Co Nichols Operations	ST	GAS	13281	39,204
JEA	Baptist Medical Center	GT	GAS	2650	39,206
JEA	Baptist Medical Center	GT	GAS	2500	39,209
Kissimmee Utility Authority	Hansel	IC	NG	2070	39,211

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Fort Pierce Utilities Auth	Henry D King	ST	NG	16500	39,227
Tampa Electric Co	IMC Agrico Co New Wales Operations	ST	GAS	10000	39,237
Tallahassee City of	Arvah B Hopkins	GT	NG	27000	39,263
New Smyrna Beach Utils Comm	W E Swoope	IC	FO2	910	39,264
New Smyrna Beach Utils Comm	W E Swoope	IC	FO2	2050	39,266
New Smyrna Beach Utils Comm	W E Swoope	IC	FO2	2275	39,268
Tampa Electric Co	St Josephs Hospital	GT	GAS	1700	39,270
Lake Worth City of	Tom G Smith	ST	NG	32580	39,303
Kissimmee Utility Authority	Hansel	CT	NG	35000	39,335
Tampa Electric Co	IMC Agrico Co South Pierce Operations	ST	GAS	7500	39,342
Gulf Power Co	Crist	ST	NG	37500	39,377
Lakeland City of	Larsen Memorial	ST	NG	25000	39,404
Tallahassee City of	Arvah B Hopkins	GT	NG	16320	39,418
Tampa Electric Co	Nitram Inc	ST	GAS	6218	39,425
Gulf Power Co	Pensacola Florida Plant	ST	GAS	6000	39,431
Florida Power Corp	Higgins	GT	NG	42925	39,466
Gulf Power Co	Pensacola Cogeneration Plant	GT	GAS	1100	39,467
Gulf Power Co	Pensacola Cogeneration Plant	GT	GAS	1100	39,468
Gulf Power Co	Pensacola Cogeneration Plant	GT	GAS	1100	39,469
Gulf Power Co	Pensacola Florida Plant	ST	GAS	5000	39,474
Gulf Power Co	Pensacola Florida Plant	ST	GAS	5000	39,479
JEA	St Vincents Medical Center	GT	GAS	1038	39,480
Gainesville Regional Utilities	Deerhaven	GT	NG	24600	39,500
Gainesville Regional Utilities	Deerhaven	GT	NG	24600	39,520
Florida Power Corp	Higgins	GT	NG	42925	39,555
Kissimmee Utility Authority	Hansel	IC	NG	2070	39,557
Gulf Power Co	Crist	ST	NG	28125	39,581
Gulf Power Co	Crist	ST	NG	28125	39,605
Lake Worth City of	Tom G Smith	ST	NG	26500	39,629
Lake Worth City of	Tom G Smith	ST	NG	7500	39,637
Gainesville Regional Utilities	John R Kelly	ST	NG	25000	39,660
Lakeland City of	C D McIntosh Jr	GT	NG	26640	39,680
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,681
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,682
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,682
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,683
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,684
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,684
Florida Power & Light Co	Merritt Square Mall	IC	GAS	700	39,685
Florida Power Corp	Pasco Cogen Ltd	IC	GAS	1250	39,686
Florida Power Corp	Pasco Cogen Ltd	IC	GAS	1250	39,688
Florida Power Corp	Avon Park	GT	NG	33790	39,720
Gulf Power Co	Blackjack Creek Treating	GT	GAS	500	39,720
Gulf Power Co	Blackjack Creek Treating	GT	GAS	500	39,721
Gulf Power Co	Blackjack Creek Treating	GT	GAS	500	39,721
Gulf Power Co	Blackjack Creek Treating	GT	GAS	500	39,722
JEA	Baptist Medical Center	GT	GAS	500	39,722
JEA	Baptist Medical Center	GT	GAS	500	39,723
JEA	Baptist Medical Center	GT	GAS	500	39,723
Fort Pierce Utilities Auth	Henry D King	IC	FO2	2750	39,726
Fort Pierce Utilities Auth	Henry D King	IC	FO2	2750	39,728
New Smyrna Beach Utils Comm	Glencoe Road	IC	FO2	750	39,729
New Smyrna Beach Utils Comm	North Causeway	IC	FO2	750	39,730
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	1800	39,731
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	2000	39,733
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	1100	39,734
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	840	39,735
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	1800	39,736

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	2000	39,738
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	1000	39,739
New Smyrna Beach Utils Comm	Smith Street	IC	FO2	2000	39,741
Key West City of	Stock Island	IC	FO2	2500	39,743
Key West City of	Stock Island	IC	FO2	2500	39,745
Key West City of	Stock Island	IC	FO2	2500	39,747
Florida Power Corp	Higgins	GT	NG	33790	39,779
Lakeland City of	C D McIntosh Jr	IC	FO2	2500	39,782
Lakeland City of	C D McIntosh Jr	IC	FO2	2500	39,784
Key West City of	Cudjoe	IC	FO2	2750	39,787
Key West City of	Cudjoe	IC	FO2	2300	39,789
Florida Power Corp	Higgins	GT	NG	33790	39,821
Tampa Electric Co	Cutrale Citrus Juices USA Inc	ST	GAS	1500	39,822
Florida Power & Light Co	Lauderdale	GT	NG	34228	39,865
Florida Power & Light Co	Lauderdale	GT	NG	34228	39,907
Florida Power & Light Co	Lauderdale	GT	NG	34228	39,949
Florida Power & Light Co	Lauderdale	GT	NG	34228	39,992
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,034
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,077
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,119
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,162
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,204
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,246
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,289
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,331
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	2000	40,333
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	2000	40,335
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	3000	40,338
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	2500	40,340
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	3000	40,343
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	2500	40,345
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	3000	40,348
Tallahassee City of	S O Purdom	GT	NG	15000	40,360
Tallahassee City of	S O Purdom	GT	NG	15000	40,372
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,414
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,457
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,499
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,541
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,584
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,626
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,669
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,711
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,753
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,796
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,838
Florida Power & Light Co	Lauderdale	GT	NG	34228	40,881
Key West City of	Stock Island	GT	FO2	23450	40,901
Gainesville Regional Utilities	John R Kelly	GT	NG	16320	40,916
Gainesville Regional Utilities	John R Kelly	GT	NG	16320	40,931
Gainesville Regional Utilities	John R Kelly	GT	NG	16320	40,946
Key West City of	Big Pine	IC	FO2	2750	40,948
Key West City of	Stock Island	GT	FO2	19770	40,966
Key West City of	Stock Island	GT	FO2	19770	40,984
Tampa Electric Co	Big Bend	GT	FO2	78750	41,064
Tampa Electric Co	Big Bend	GT	FO2	78750	41,144
Florida Power Corp	Debary	GT	FO2	66870	41,209
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,251
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,294
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,336
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,379
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,421
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,463

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,506
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,548
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,591
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,633
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,676
Florida Power & Light Co	Port Everglades	GT	NG	34228	41,718
Florida Power Corp	Debary	GT	FO2	115000	41,811
Florida Power Corp	Debary	GT	FO2	66870	41,876
Tampa Electric Co	Phillips	IC	FO2	600	41,877
Florida Power Corp	Debary	GT	FO2	66870	41,942
JEA	Northside Generating	GT	FO2	62100	42,003
Florida Power Corp	G E Turner	GT	FO2	71200	42,085
Florida Power Corp	Debary	GT	FO2	66870	42,150
Florida Power Corp	G E Turner	GT	FO2	71200	42,230
Florida Power Corp	Debary	GT	FO2	66870	42,295
Lake Worth City of	Tom G Smith	IC	FO2	2000	42,297
Lake Worth City of	Tom G Smith	IC	FO2	2000	42,299
Lake Worth City of	Tom G Smith	IC	FO2	2000	42,301
Lake Worth City of	Tom G Smith	IC	FO2	2000	42,303
Lake Worth City of	Tom G Smith	IC	FO2	2000	42,305
Florida Power Corp	Debary	GT	FO2	66870	42,370
Lake Worth City of	Tom G Smith	ST	NG	7500	42,378
JEA	J D Kennedy	GT	FO2	56200	42,441
Florida Power Corp	Intercession City	GT	FO2	56700	42,502
JEA	J D Kennedy	GT	FO2	56200	42,565
JEA	Northside Generating	GT	FO2	62100	42,626
Florida Power Corp	Intercession City	GT	FO2	56700	42,687
Florida Power Corp	Suwannee River	GT	FO2	61200	42,754
Florida Power Corp	Intercession City	GT	FO2	56700	42,815
Florida Power Corp	Bayboro	GT	FO2	56700	42,873
Florida Power Corp	Intercession City	GT	FO2	56700	42,934
Florida Power Corp	P L Bartow	GT	FO2	55700	42,987
JEA	Northside Generating	GT	FO2	62100	43,049
Florida Power Corp	Bayboro	GT	FO2	56700	43,107
Florida Power Corp	Bayboro	GT	FO2	56700	43,165
Florida Power Corp	Intercession City	GT	FO2	56700	43,226
Florida Power Corp	P L Bartow	GT	FO2	55700	43,279
JEA	Northside Generating	GT	FO2	62100	43,340
Florida Power Corp	Bayboro	GT	FO2	56700	43,398
Florida Power Corp	Intercession City	GT	FO2	56700	43,459
JEA	J D Kennedy	GT	FO2	56200	43,522
Lakeland City of	Larsen Memorial	GT	NG	11250	43,536
Lakeland City of	Larsen Memorial	GT	NG	11250	43,550
Gulf Power Co	Lansing Smith	GT	FO2	41850	43,590
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,654
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,718
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,782
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,846
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,910
Florida Power & Light Co	Fort Myers	GT	FO2	62000	43,974
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,039
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,103
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,167
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,231
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,295
Florida Power & Light Co	Fort Myers	GT	FO2	62000	44,359
Florida Keys El Coop Assn Inc	Marathon	IC	FO2	3500	44,362
Florida Power & Light Co	Turkey Point	IC	FO2	2750	44,365
Florida Power & Light Co	Turkey Point	IC	FO2	2750	44,367
Florida Power & Light Co	Turkey Point	IC	FO2	2750	44,370
Florida Power & Light Co	Turkey Point	IC	FO2	2750	44,372
Florida Power & Light Co	Turkey Point	IC	FO2	2750	44,374
Key West City of	Stock Island	IC	FO2	9600	44,383

Exhibit 5-1 FRCC Unit Data (continued)

Utility	Plant Name	Unit Type	Fuel	Summer Rating	Cumulative MW
Key West City of	Stock Island	IC	FO2	9600	44,392
Tampa Electric Co	Big Bend	GT	FO2	18000	44,409
Tampa Electric Co	F J Gannon	GT	FO2	18000	44,426
Florida Power Corp	Avon Park	GT	FO2	33790	44,458
Gainesville Regional Utilities	John R Kelly	ST	NG	18750	44,472
Florida Power Corp	Rio Pinar	GT	FO2	19290	44,488
Florida Power Corp	G E Turner	GT	FO2	19290	44,504
Alabama Electric Coop Inc	Portland	GT	FO2	11000	44,515
Florida Power Corp	G E Turner	GT	FO2	19290	44,531
Lake Worth City of	Tom G Smith	GT	FO2	30800	44,562

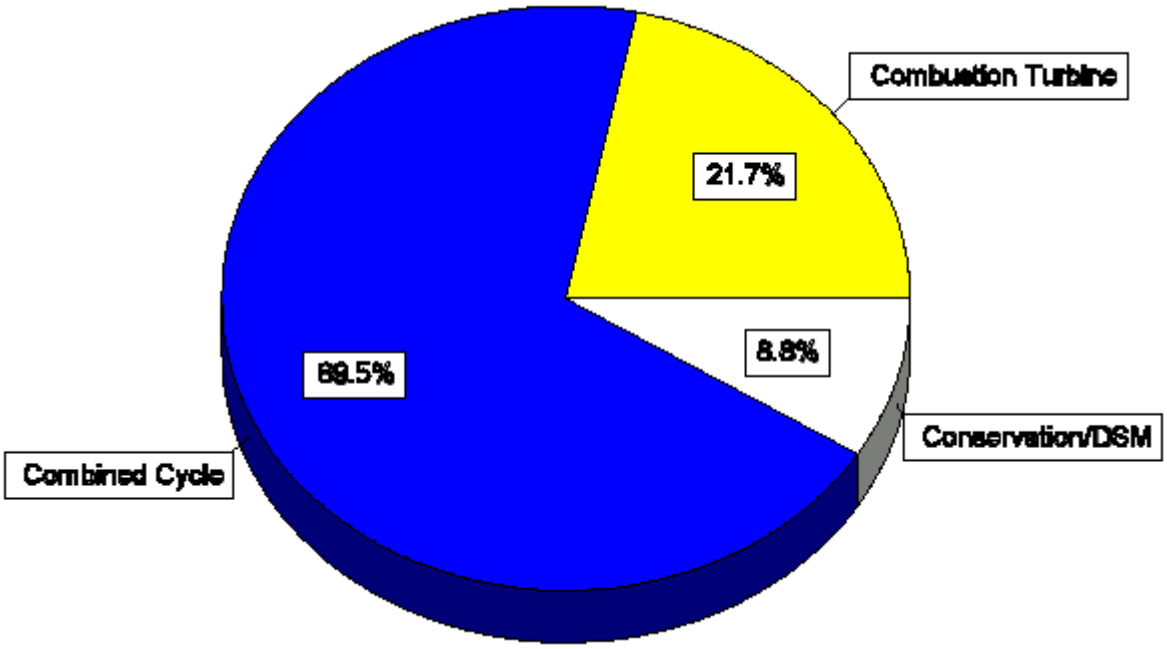
5.2 Planned Generation

Based on the approved demand and energy forecasts by the state's utilities, various additions to the generation fleet have been approved by the FPSC. Those new additions plus capacity upgrades or changes to existing units and retirements are listed below in Exhibit 5-2 [3] and Exhibit 5-3 [3].

Exhibit 5-2
Planned New Generating Additions, Changes in Capacity at Existing Sites, and Unit Retirements (2000-2009)

	SUMMER CAPACITY (MW)	WINTER CAPACITY (MW)
NEW ELECTRIC UTILITY GENERATING UNIT ADDITIONS		
Combined Cycle	8,485	9,406
Combustion Turbine	3,401	3,986
Coal	288	288
TOTAL	**12,174**	**13,680**
CAPACITY CHANGES AT EXISTING ELECTRIC UTILITY SITES (repowering, fuel conversion, cold standby)		
Combined Cycle	2,180	2,521
Combustion Turbine	101	52
Coal	-517	-581
Oil & Gas Fossil Steam	-350	-403
TOTAL	**1,414**	**1,589**
ELECTRIC UTILITY UNIT RETIREMENTS		
Combustion Turbine	-273	-314
Oil & Gas Fossil Steam	-813	-826
TOTAL	**-1,086**	**-1,140**
EXPIRATION OF ELECTRIC UTILITY FIRM CAPACITY CONTRACTS (with non-utility generators)		
Cogeneration [1]	-376	-376
Independent Power Producers [2]	-593	-593
TOTAL	**-969**	**-969**
TOTAL *NET* ELECTRIC UTILITY ADDITIONS	**11,533**	**13,160**

Exhibit 5-3
Chart Showing Electric Utility Resource Additions (2000-2009)

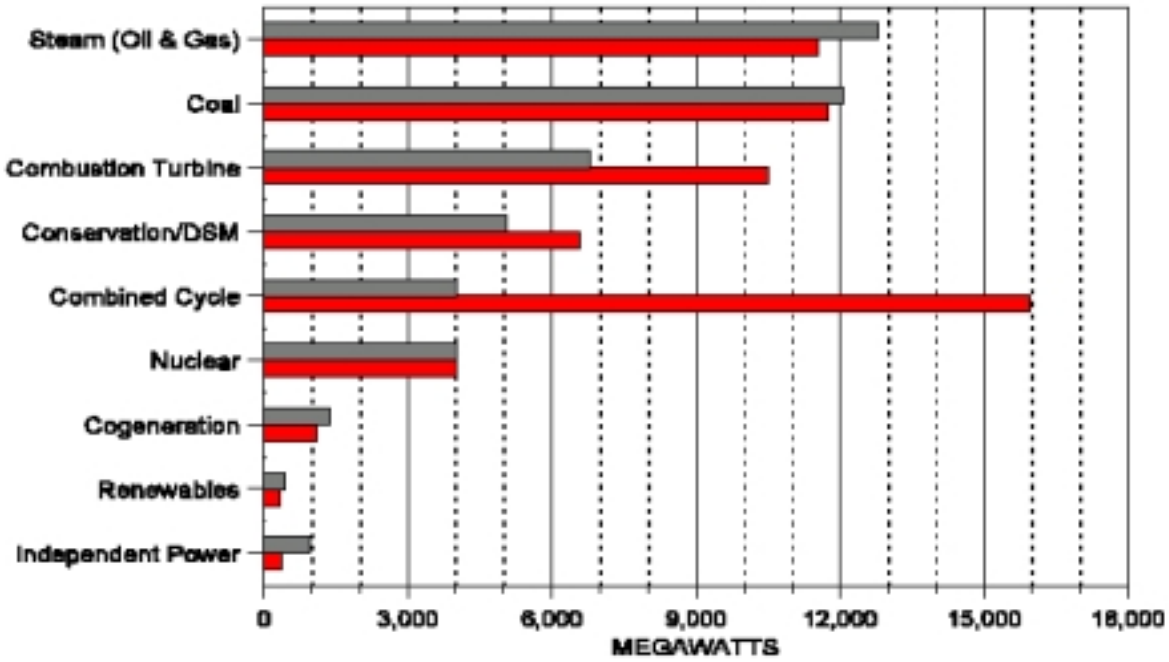


5.3 Generation Selection

Florida's utilities supply electricity from many generating unit types. However, generating units in Florida were fueled primarily by oil prior to the early 1970's. While oil-fired generation still provides 19 percent of Florida's electricity at present, the oil embargoes of the 1970's forced utilities to turn more to domestic fuels: coal, nuclear, and natural gas.

Exhibit 5-4 [3] illustrates the historical and forecasted energy generation mix by fuel type for Florida's electric utilities. Over the next ten years, Florida's utilities are forecasting a substantial increase in natural gas-fired generation as the emphasis shifts away from oil-fired and coal-fired generating units. Nearly all of this capacity is expected to come from efficient, gas-fired combined cycle and combustion turbine units. Coal-fired generating units are not considered a viable option for most of Florida's electric utilities because of high construction costs, although Lakeland has one in its TYSP. Likewise, additional nuclear power plants are not considered a viable option in Florida's future primarily because of high construction costs and uncertainty over spent fuel disposal.

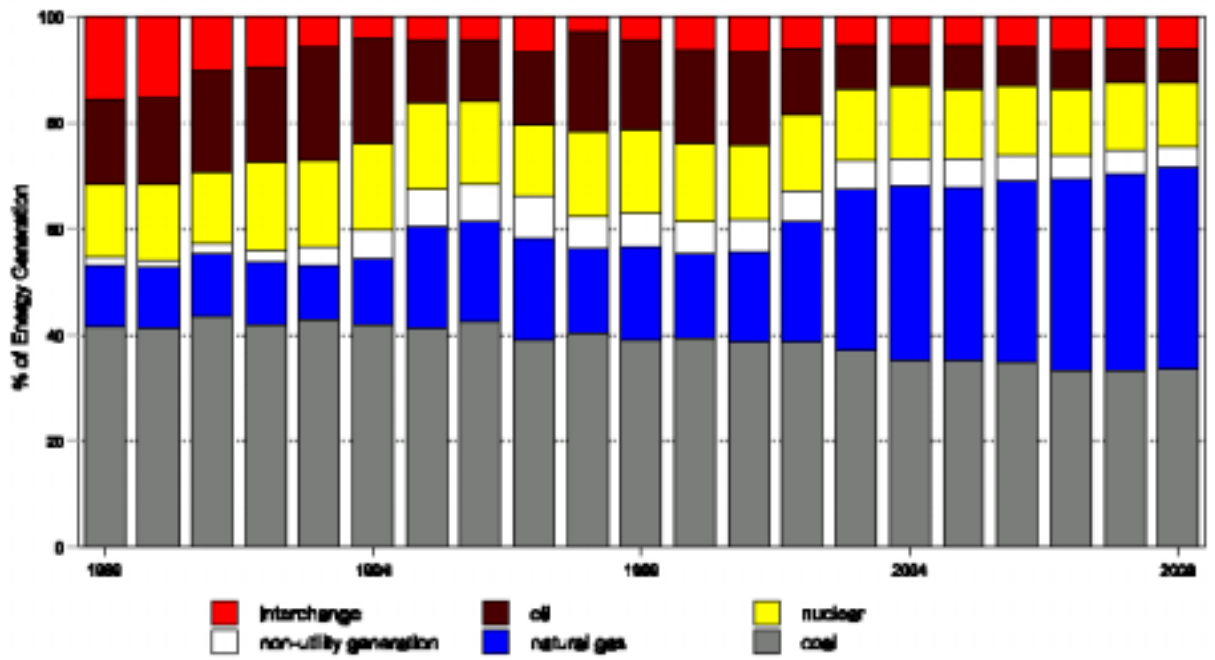
Exhibit 5-4
Electric Utility Resource Mix by Plant Type -- Present and Future



5.3.1 Natural Gas

This growth in generation fueled by natural gas cannot occur without similar growth in the infrastructure to deliver a reliable and acceptable-cost supply of that fuel to generators. Peninsular Florida's utilities project a substantial increase in natural gas-fired generation over the next ten years, increasing from the present approximately 17 percent up to 40 percent of all energy generated in year 2008. The increase is due primarily to planned combined cycle and combustion turbine unit additions. In addition, all proposed unit repowerings and unit additions by non-utility generators are expected to use natural gas. Projections of increased natural gas consumption do not include the proposed new merchant plants that have been announced this year. See related Section 4.2.3, "Natural Gas Availability," given earlier back on page 32.

Exhibit 5-5
Percent of Energy Generation by Fuel Type



5.4 Status of Need Determinations and Site Certifications

The Commission has granted a Determination-of-Need for several generating units in recent years. Some of these units have also been certified under the Power Plant Siting Act by the governor and cabinet, acting as the Power Plant Siting Board. The following is a summary of those generating units that have received a Determination-of-Need from the Commission but have yet to be placed into commercial operation.

5.4.1 Utility-Owned Generating Units

- **Seminole Electric Cooperative -- Payne Creek Generating Station Unit 3**

  The Commission granted SEC's need petition for a 440 MW combined cycle unit at the existing Hardee Power Station site in June 1994. This unit was certified under the Power Plant Siting Act in August 1995 and originally was to be in service by 1999. However, SEC deferred construction of the unit until January 2002 in order to purchase cost-effective firm capacity from FPC.

- **Kissimmee Utility Authority / Florida Municipal Power Agency -- Cane Island Unit 3**

  In September, 1998, the Commission granted joint need petition, by KUA and FMPA, to jointly build and operate a 250 MW gas-fired combined cycle unit at the existing Cane Island site in Osceola County. Cane Island Unit 3 was certified under the Power Plant Siting Act in November 1999. Construction began immediately thereafter with a planned June 2001 in-service date.

- **Gulf Power Company -- Smith Unit 3**

  In June 1999, the Commission granted Gulf's petition to build a 532 MW gas-fired combined cycle unit at the existing Lansing Smith site in Bay County. Smith Unit 3 was certified under the Power Plant Siting Act in July 2000. Gulf began construction on the unit in November 2000 to meet an in-service date of June 2002.

- **City of Lakeland -- McIntosh Unit 5**

  In April 1999, the Commission granted LAK's petition to build a 120 MW steam turbine portion of a 365 MW combined cycle unit at the McIntosh site in Polk County. The steam turbine portion of McIntosh Unit 5 was certified under the Power Plant Siting Act in June 2000. Construction began immediately thereafter to meet an anticipated January 2002 in-service date.

5.4.2 Merchant Plant

- **Duke Energy Company / Utilities Commission of New Smyrna Beach**

  On March 22, 1999, the Commission granted a need petition by Duke New Smyrna Beach Energy Company to build a 514 MW gas-fired combined cycle unit at a site in New Smyrna Beach. Approximately 50 MW of the proposed plant's output is expected to go to the Utilities Commission of New Smyrna Beach (NSB) pursuant to

a yet-unsigned power purchase agreement, with the remainder of the capacity available for purchase by any other entity.

The proposed Duke Energy unit has been awaiting certification by DEP under the Power Plant Siting Act. However, the Florida Supreme Court overturned the Commission's approval. The Court stated that the Commission does not have jurisdiction to approve the need for generating units whose capacity is not fully committed to retail load. The Commission petitioned the Supreme Court for a rehearing on its decision. On September 28, 2000, the Supreme Court reaffirmed its order overturning the Commission's Duke Energy decision.

5.4.3 Planned Utility-Owned Generating Units Requiring Certification

The TYSPs filed by the reporting utilities contain proposed generating units that will require certification under the Power Plant Siting Act prior to their construction. The following is a summary of these proposed units.

- **Florida Power -- Hines Units 2, 3, 4, and 5**

  FPC's expansion plans reflect the planned addition of four new 567 MW gas-fired combined cycle units at the existing Hines plant site in Polk County. Identical to the first unit at the site, Hines Units 2-5 are currently scheduled to be placed into commercial service in 2003, 2005, 2007, and 2009, respectively. FPC has petitioned the Commission for a Determination-of-Need for Hines Unit 2. All four of the proposed Hines units will require certification under the Power Plant Siting Act.

- **Florida Power & Light Company -- Martin Units 5 and 6** (plus three unsited combined cycle units)

  FPL's expansion plans reflect the planned addition of two new 429 MW gas-fired combined cycle units at the existing Martin plant site in Martin County. Martin Units 5 and 6 are currently scheduled to be placed into commercial service in June 2006. These units will require certification under the Power Plant Siting Act. FPL also plans to build three 429 MW gas-fired combined cycle units at another yet-to-be determined site. These units have planned in-service dates of 2007, 2008, and 2009, respectively. If they are ultimately built, these units will require certification under the Power Plant Siting Act.

- **Jacksonville Electric Authority – Brandy Branch Unit 4** (plus an Unsited combined cycle unit)

  JEA's expansion plans reflect the addition of a 191 MW heat recovery steam generator (HRSG) at the proposed Brandy Branch site in Duval County. The HRSG,

with an anticipated June 2003 in-service date, will be fitted to two 191 MW combustion turbine units already placed into service in January 2001, forming a 573 MW combined cycle unit. JEA plans to file a Determination-of-Need petition for the HRSG with the Commission later this year. The HRSG will require certification under the Power Plant Siting Act.

JEA also plans to build a new 284 MW gas-fired combined cycle unit at a yet-to-be determined site. The proposed unit, with a June 2006 in-service date, will require certification under the Power Plant Siting Act.

- **City of Lakeland -- McIntosh Unit 4**

LAK's expansion plans reflect the planned addition of a 288 MW pressurized fluidized bed coal unit at the existing McIntosh plant site in Polk County. This unit was formerly a candidate for funding from the U.S. Department of Energy's Clean Coal Technology Program, but it appears that LAK may proceed with a different choice of technology. LAK needs to file a Determination-of-Need petition with the Commission soon if it hopes to meet an anticipated June 2005 in-service date. This unit will require certification under the Power Plant Siting Act.

- **Orlando Utilities Commission – Stanton Unit 3**

OUC's expansion plans reflect the planned addition of a 585 MW gas-fired combined cycle unit at the existing Stanton site in Orange County. OUC plans to file a Determination-of-Need petition with the Commission to meet an anticipated November 2004 in-service date. This unit will require certification under the Power Plant Siting Act.

6. FRCC Demand, Energy, and Fuel Price Projections

This section describes FRCC's assessment about the region's projected load over the next 10 years. This projection is the current planning reported by FRCC. These FRCC data are assessed, and used as the basis for the region's GEMSET forecast. This section covers the following subjects:

- Section 6.1 gives FRCC demand and energy growth projections for the region, beginning on page 59.
- Section 6.2, beginning on page 62, documents FRCC's historical and forecast fuel prices for generation.

6.1 Demand and Energy Growth Projection

The long-term forecast is for an FRCC energy system with summer peaks growing at 2.54 percent, and winter peaks at 2.35 percent annually. Total energy consumption is expected to grow at slightly more than 2.35 percent annually

Exhibit 6-1 shows the ERCOT summer and winter peak load forecasts from 2001 through 2010, while Exhibit 6-2 indicates the net energy for sale forecast through 2010.

Exhibit 6-1
FRCC Summer & Winter Peak Demand Forecast

YEAR	SUMMER PEAK (MW)	YEAR	WINTER PEAK (MW)
2001	38,285	2001-2002	40,716
2002	39,469	2002-2003	42,034
2003	40,719	2003-2004	43,039
2004	41,699	2004-2005	44,029
2005	42,671	2005-2006	45,051
2006	43,865	2006-2007	46,195
2007	44,869	2007-2008	47,174
2008	45,872	2008-2009	48,179
2009	46,863	2009-2010	49,182
2010	47,991	2010-2011	50,222

Over the next ten years, peak demands are expected to increase approximately 1,000 MW per year, reaching a level of over 50,000 MW by the end of the period. This represents a growth of slightly more than 23 percent over the time frame of the forecast.

In Exhibit 6-2 below the forecasted energy for load is presented along with the sources of that generation by fuel type. The growth in energy is over 26 percent.

Exhibit 6-2
Forecasted Energy Interchange & Generation by Fuel Type

YEAR	NET ENERGY FOR LOAD	INTER-CHANGE*	NUCLEAR	COAL	OIL	NATURAL GAS	HYDRO	NUG**
2000 ***	209,086	18,372	32,555	76,050	32,763	36,878	7	12,461
2001	215,717	20,622	30,726	77,072	33,041	40,743	25	13,488
2002	222,314	17,383	32,086	80,224	25,870	53,877	25	12,849
2003	229,383	11,941	31,125	80,994	25,725	67,428	25	12,145
2004	234,333	9,786	31,637	79,086	25,506	76,075	25	12,218
2005	239,213	10,593	31,548	77,140	19,844	88,432	25	11,631
2006	244,708	12,022	31,668	79,576	14,874	96,071	25	10,472
2007	249,505	14,285	31,012	78,458	14,303	101,086	25	10,336
2008	254,568	15,347	32,188	79,387	13,708	103,605	25	10,308
2009	259,375	16,132	31,124	80,513	14,771	107,578	25	9,232
2010	264,388	12,171	31,585	80,822	14,866	116,073	25	8,846

*Interchange includes other.
**Non-utility generators.
***Figures are actual.

6.1.1 Baseload Demand Projections

With the projections provided by FRCC from their planning departments, it is apparent that little diversity is expected in their load characteristics between now and 2010. Annual and monthly load factors remained relatively constant over the time period of their analysis. Therefore, based on the projections provided, baseload requirements will only increase by approximately 6,000 MW through year 2010. It is expected that this baseload generation will be provided by the more than 13,000 MW currently in the FRCC planning process.

6.1.2 Peaking Demand Projections

With the peak load increasing almost 10,000 MW in the next 10 years, FRCC's actual peak load generation requirements will likely increase by about 3,000 MW to almost 10,000 MW from today's 7,000 MW level. FRCC expects combustion turbines fueled by natural gas will supply all of that new generation requirement.

6.2 Fuels Forecast for the FRCC Region

Region 1 – New England
Region 2 – Mid-Atlantic
Region 3 – East North Central
Region 4 – West North Central
Region 5 – South Atlantic
Region 6 – East South Central
Region 7 – West South Central
Region 8 – Mountain
Region 9 - Pacific

This section discusses the fuel prices that existed in the region and describes the forecast expectations for the region. The fuels forecast region is made up of the following states as reported by FERC: Region 5 -- South Atlantic -- Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia. These forecasts are drawn from the GEMSET Fuels Characterization.[4]

6.2.1 Natural Gas Prices

The delivered natural gas price to generating company owners in the region are reported on FERC Form 423. Recent gas price historical and projected data for the region are shown in Exhibit 6-3. These data are reported on a monthly basis with a six-month lag in the reports.

Exhibit 6-3
GEMSET Baseline Natural Gas Price Projection for the South Atlantic Region in Current Year U.S. Dollars Compared to the Data Sources Used for the Projections

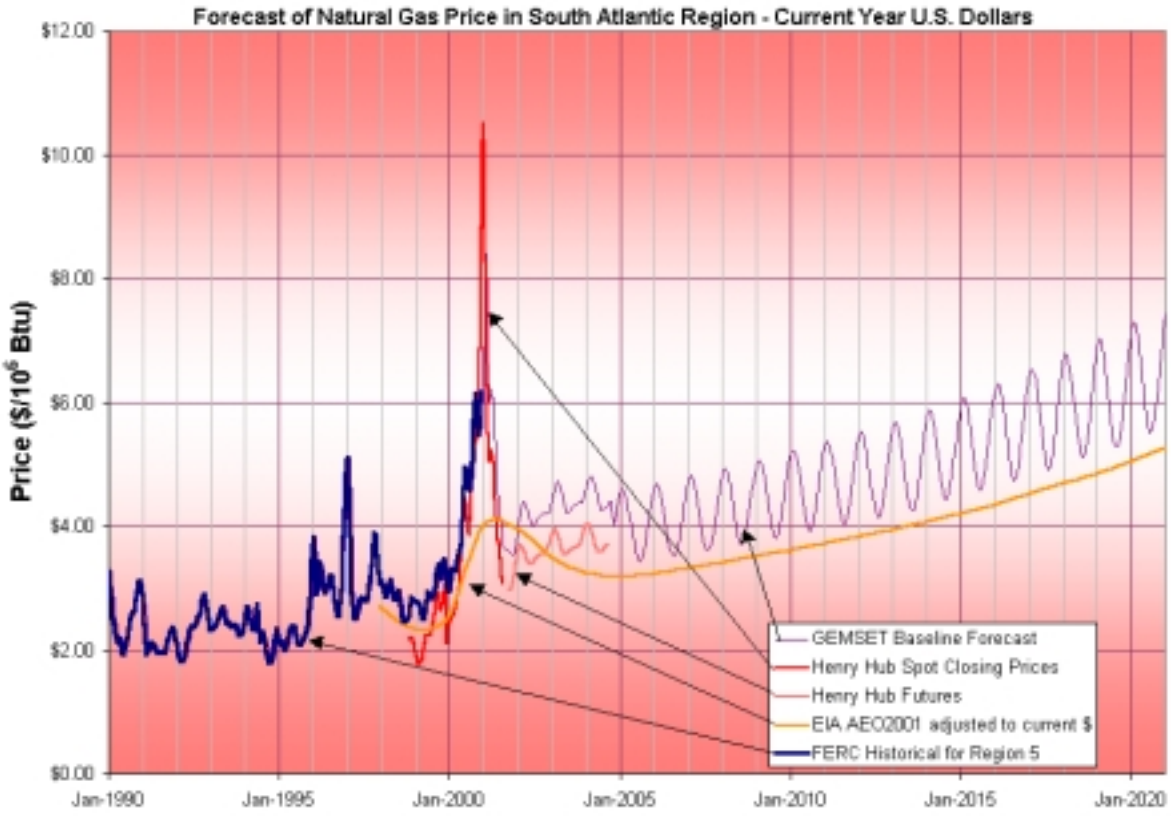
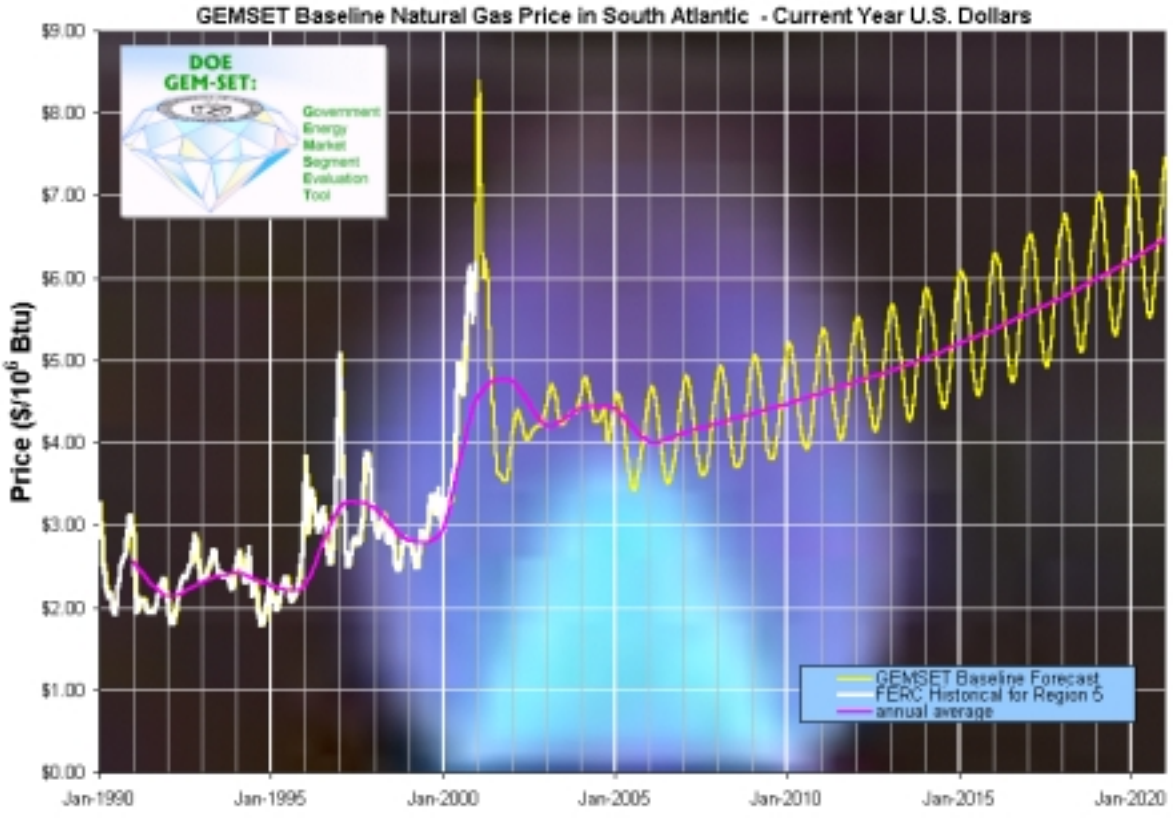


Exhibit 6-4
GEMSET Baseline Natural Gas Price Projection for the South Atlantic Region

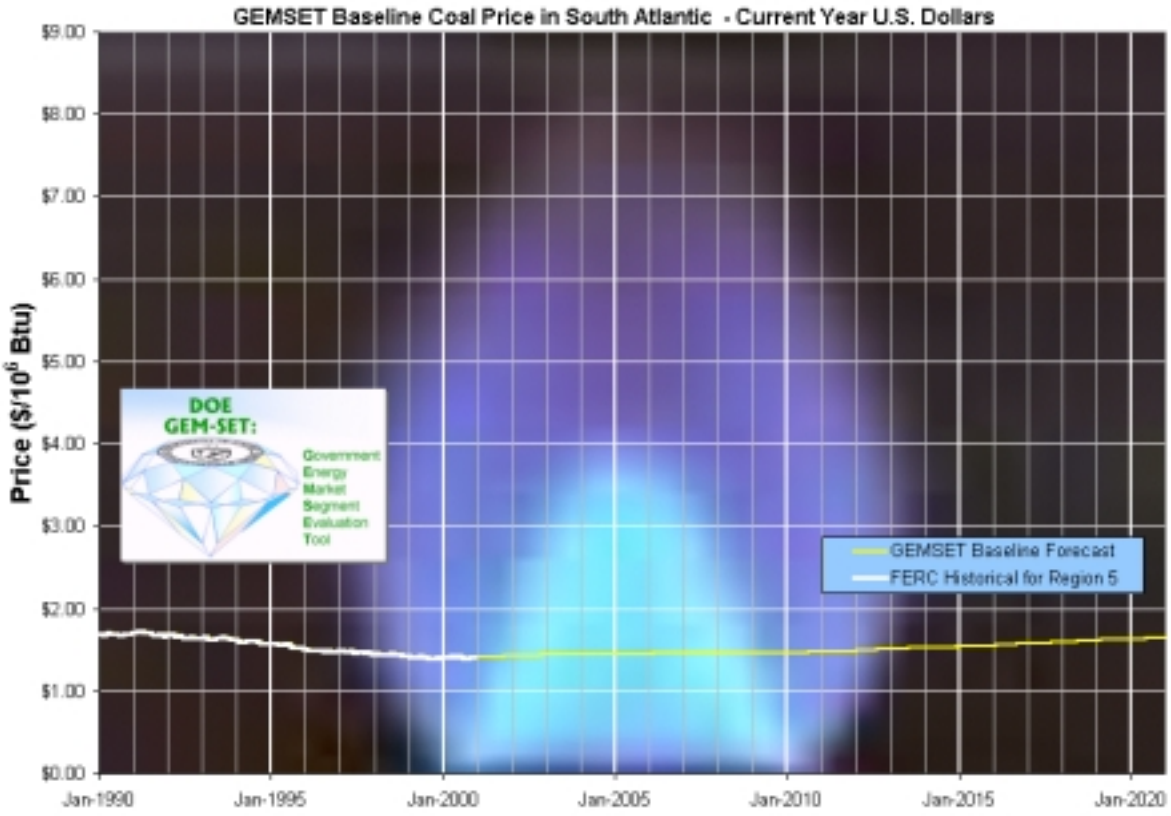


Periodically, these data will be revised to reflect changes in actual prices, and to adjust the forecasts to gas futures market changes, and changes in the NEMS economic modeling.

6.2.2 Coal Price in South-Atlantic Region

The Historical coal price in the South-Atlantic Region has been stable over the last few years, averaging between \$1.35-1.45 / 10^6 Btu. This price is expected to continue for the short term, but rising slightly in the long-term. Exhibit 6-5 shows the historical and projected prices for coal.

Exhibit 6-5
GEMSET Baseline Coal Price Projection for the South Atlantic Region



6.2.3 Oil Prices in the South Atlantic Region

The Exhibits below indicate the historical and projected prices for #2 and #6 fuel oil in the region. As with all of the regions, there are individual ratios developed for each fuel based on the historical relationship on a national basis versus the regional prices. Those ratios are presented in the analysis itself.

Exhibit 6-6 # 2 Oil Price in the South Atlantic Region

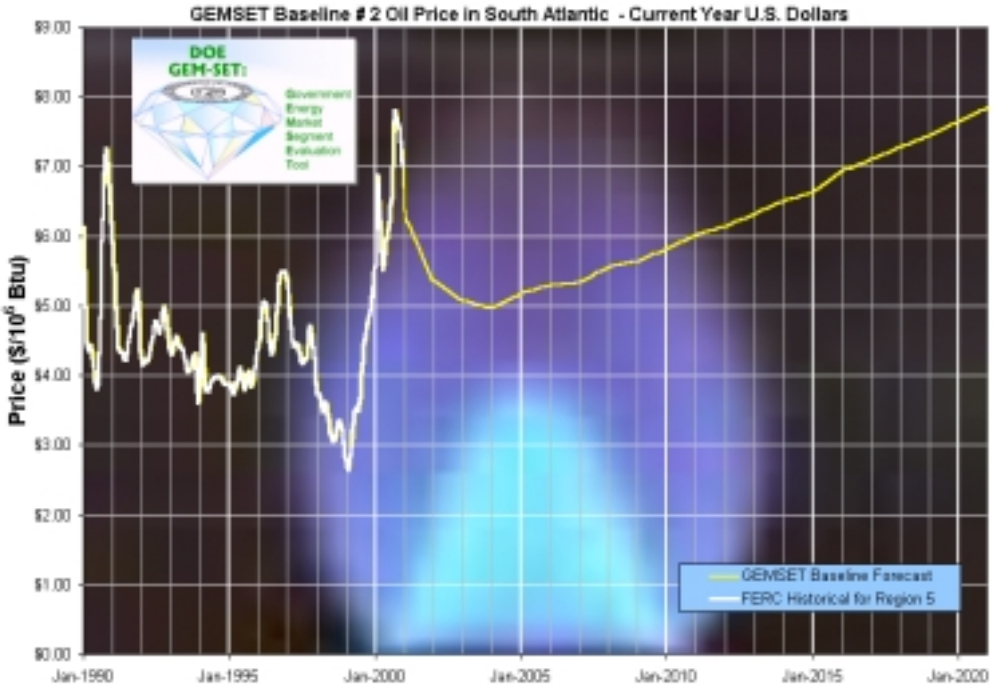
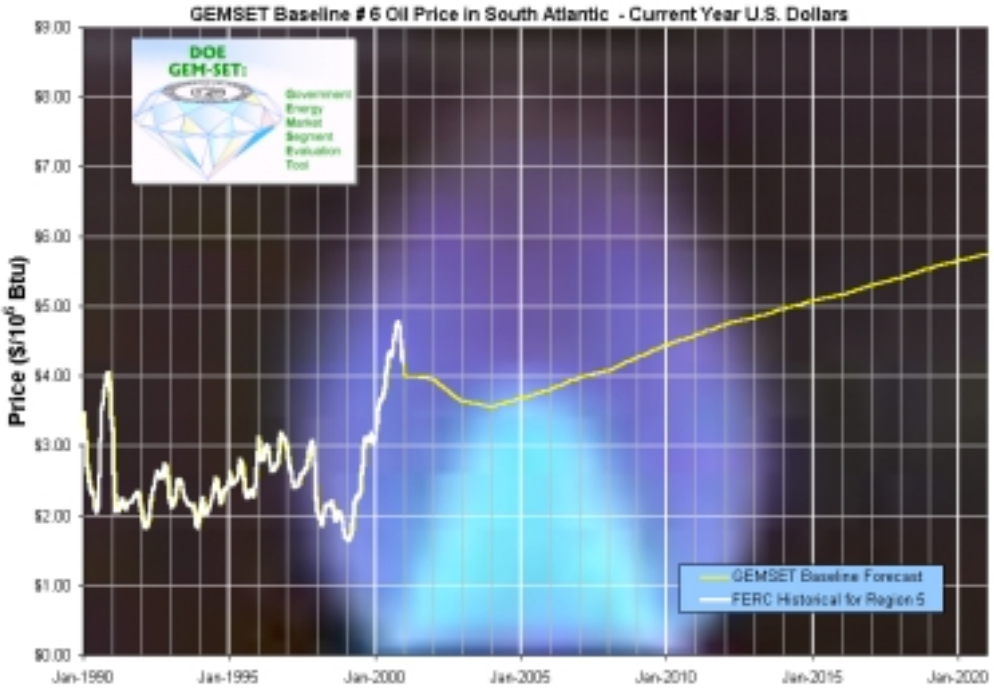


Exhibit 6-7 # 6 Oil in the South Atlantic Region



7. References

The references used to prepare this report include the following:

[1] Statistics of the Florida Electric Utility Industry 2000, published by the Division of Economic Regulators of the Florida Public Service Commission.

[2] Florida Public Service Commisssion, Statement of Agency Organizations & Operations.

[3] Review of Electric Utility 2000 Ten-Year Site Plans, Florida Public Service Commission.

[4] Weinstein, R.E., Herman, A.A., and Lowe, J.J. GEMSET Assessment: Fuels Characterization. Parsons Report No. EJ-2001-06. Draft. September 2001.

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